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Regional Report

Thematic Report

Written Contribution for the 2020 Annual Report



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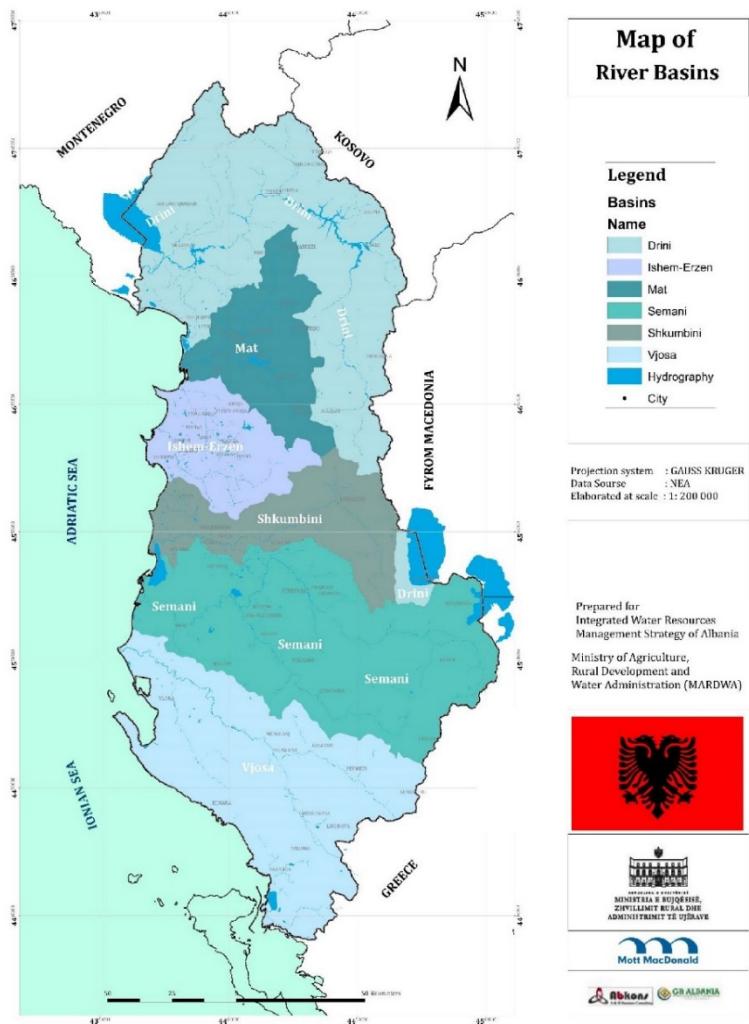
01. Albania

1.1 Water resources in Albania

1.1.1 Introduction

There are many water resources in Albania which can be found in the form of rivers, streams, lakes, wetlands and reservoirs. Currently, there are eight main rivers which divide the country in six basins,¹ three large transboundary lakes, important wetlands, abundant groundwater resources and 640 reservoirs designated mostly for irrigation of agricultural lands and electricity production. Clearly, water is a strategic natural resource in Albania distributed throughout the country and as an important asset needs further attention in order to provide the principles of sustainable development. Furthermore, the conditions of a changing climate and the pressure of urban development are some of the reasons which push the competent authorities to take actions to smartly manage water resources in Albania.

The Global Water Partnership defines the Integrated Water Resource Management (IWRM) as a process which promotes the coordinated



¹<http://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=4765&token=4849e7ea96b9affd55dd6da2fab93ce8368ff176>

development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (Integrated Water Resources Management, 2000). To fulfill the IWRM principles, firstly Albania faces the challenge of reduction of water usage while conserving resources for future generations. In the next ten years, the use of water resources for energy production, water supply to the population, expansion of irrigation for agriculture, industry and conservation of aquatic ecosystems will require larger quantities of water and improve its quality. Meanwhile, water resources in Albania are expected to decrease by 14% by 2050 (Ministry of Agriculture, Rural Development and Water Management, 2016). Secondly, the country's capacity to manage water resources is still limited in human resources, institutions and infrastructure. Strengthening is required in terms of policy design, planning, implementation and evaluation requires improvements through specific interventions.

1.1.2 Legal framework on water resources management

- Law no. 111/2012 "On Integrated Management of Water Resources" amended by law no. 6/2018 on some changes and additions to law 111/2012 on Integrated Water Resources Management".²

Law no. 111/2012, amended by law 6/2018, integrates different bylaws into a single package aimed to improve the status of surface water, groundwater, protected areas and in particular curative, mineral and geothermal waters. Also, the essence of the law is based on the preventing principle; needs in taking preventive actions, environmental damage should be treated with priority at its source where the principle "the polluter pays" must be undertaken. Also, this law defines the content of water policy documents, including: (1) the objective of planning and developing actions for water management according to economic, demographic, social, environmental,

²

https://www.erru.al/doc/Ligj_11.2012_Per_Menaxhimin_e_Integruar_te_Burimeve_Ujore.pdf

cultural and historical developments, and (2) measures for implementation, operational plan and establishment of the budget needed for implementation.

1.3 Use of water

In order to understand vulnerabilities in the process of the management of water resources, in the National Strategy of Integrated Water Resources Management (NSIWRM), water is defined in four main pillars:

- a) **Water for people** – water supply and waste water system;
- b) **Water for food** – irrigation of agricultural land;
- c) **Water for industry** – hydro-energy, solid waste management, etc.;
- d) **Water for the environment** – protected areas, wetlands and forests.

a. Water for people. According to the Albanian Regulatory Authority of the Water Supply and Waste Water Disposal and Treatment Sector's annual report of 2019, the Albanian territory is 77.2% covered by the water supply system. This coverage is almost at the same level compared to the previous year. Even though this percentage is relatively stable, there are needed further improvements relating to the physical infrastructure investments, where rural areas need special attention. Meanwhile, regarding the waste water system, the level of coverage is 52.9%, marking an increase for about 1% compared to the previous year. Even though this indicator shows improvements, yet 54,323 connections seem to pull off the collection of waste water through septic tanks which mostly are not provided with the relevant environmental permit causing a high level of soil and aquifers pollution. Moreover, only 25% of the Albanian population is served by the waste water system which passes through wastewater treatment plants that are fully functional (Albanian Regulatory Authority of the Water Supply and Waste Water Disposal and Treatment Sector, 2020). Consequently, the waste water is discharged directly to the nearest water body that in most cases, is a river. This indicator is probably the most problematic one because of the environmental and social concerns it causes: riverbank and river pollution, damage to the coastal areas, damage to the biodiversity and ecosystems and finally health and other social impacts to the community.

b. Water for food. Agriculture is one of the most important sectors in Albania, which also contributes significantly in the country's GDP. 24% of the country is agriculture land (695,000 ha) where 80% of it is private property. According to the Irrigation and Drainage Strategy (IDS), the main concern of the government regarding agriculture stands in the land's consolidation. If achieved, consolidation can improve in accessing productivity, in well – selecting of agricultural products, in fulfilling local markets' needs and increasing the level of exports. On the other hand, increasing the level of lands' productivity is yet another challenge for the government, year by year. To increase the level of productivity consequently means increasing the level of the irrigation and drainage system (Ministry of Agriculture, Rural Development and Water Management, 2017). Even though authorities state that more than 50% of the agriculture land is irrigated, a significant part of this system does not fully function due to the lack of constant maintenance and rehabilitation investments. In addition, frequent changes in the economy, urban development, and aging of the farm population have all caused the management performance of irrigation and drainage systems to become poor.

c. Water for industry. Industry is a small sector in Albania which seems to have shown improved performance in industrial production and mining in the recent years. Hydro – energy is the main source of the electric energy production in Albania. Currently, production varies from approximately 2900 GWh in very dry years to almost 6,000 GWh in years with high levels of humidity. However, as a result of limited capacity in energy distribution, electricity imports cannot meet domestic production and the system operator is obliged to cut off power during periods when the level of demand is highest. However, in 2010 Albania went through a long-wet period with increased levels of rainfall distributed throughout the year. For the hydro-energy sector, this year was a successful one because after 13 years, finally Albania turned into an energy exporter country. The cooperation between neighbor countries is an important aspect for the supply of electricity, for balancing the load every day and every season. Another important aspect is the operation of hydropower plants which depends on the water flowing in the turbines (volume and speed of water). Production of energy from large hydropower plants is associated with rainfall and water filling of reservoirs supply, while energy production from small hydropower plants depends on the volume of water flow in rivers. By 2050, energy production from large and

small hydropower plants in Albania is expected to decline by about 15% and 20%, respectively, due to a 20% drop by 2050 (World Bank, 2009).

d. Water for the environment. As already known, three most important environmental habitats are forests, wetlands and protected areas. Another thing these ecosystems have in common is the permanent need for the right amount of water in order to conserve their recreational and protective purposes. Wetlands in Albania are special and sensitive ecosystems because 70% of the country's fauna can be found among these areas. The development of agricultural lands and the process of urbanization has seriously damaged wetlands and consequently has contributed in the reduction of protected areas, other types of landscapes and natural resources. Regarding the forest areas, Albania is one of the few countries that report a negative trend with an average annual loss of 1.5% between 1990 and 2015 total forests' surface (Forest Europe, 2015). In general, forests have a close connection with water resources because they help preventing soil's erosion, reduce floods, offer a variety in biodiversity and they can absorb pollutants contributing also in the improvement of the climate.

All the above-mentioned pillars surely have one thing in common: they are all affected by the impacts of climate change, namely by droughts and floods. As the temperatures will keep rising year by year, so will the demand for water in every sector. Meanwhile, the availability of water resources is likely to decline. Also, aggressive and intensive rain events that will fall for a short period of time caused by climate change will lead to devastating effects such as flooding. Floods have a direct impact on the lives of local communities, damaging their homes and weakening their economic situation. By causing significant damage to agricultural land and interruption of drinking water supply services, floods increase risks to human health and can seriously damage various urban infrastructure systems. Moreover, the projected effects of climate change on the environment reveal a decrease in water availability and its quality, which exhibits a negative pressure on the impact on aquatic ecosystems.

1.2 Flooding and the urban environment in Albania

1.2.1 Overview

During the past years, Albania has been exposed to a considerable number of natural disasters that have been caused from climate change but also from

human activities. These natural disasters include: wildfires, earthquakes, droughts and **floods**. Unfortunately, statistics show that on average this country every year is hit by a major natural disaster. Clearly, Albania is part of the countries affected by climate change since 2007 but it must be underlined that this country has no specific contribution to this phenomenon, compared to other countries. On the other hand, human activities including the malfunctioning of the urban infrastructure, construction activities and the excessive land use are some of the main reasons why often Albania has difficulties in recovering from natural disasters. One of the most critical crises is the flood crisis and the devastating effects it brings to the urban environment and not only, causing from material damage to loss of human lives. Moreover, as above mentioned, Albania is home to about 640 reservoirs and numerous rivers, which due to the lack of management from respective authorities, can sometimes lead not only to national problems but even to regional ones. This is the case of the hydrological system Shkodra Lake – Buna river – Drini River, a very complicated system since 1962.

On the other hand, people have always tried to settle near rivers using them for transport, water supply and waste disposal. Water bodies, naturally or artificially created, have been used by authorities to give cities recreational motives and to offer relaxing spots to citizens in order to "escape" from urban reality. Historically, cities have been developed on the banks of rivers or on sea or lake shores and consequently urban settlement has always dealt with flooding problems. Given this important fact, planning authorities need to implement flooding measures in order to control areas which are always under pressure from this phenomenon and to protect urban population from being affected. It should be underlined that flooding can cause *direct* or *indirect* and *tangible* or *intangible* damages. Direct damages are the results of direct physical contact with the flooding event itself while indirect damages are other damages caused by flooding, but mostly after the event or outside the flood prone area. Tangible damages refer to loss in economic terms while intangible damages mean loss of lives or other social problems such as trauma, diseases, etc.

Although a law has been drafted for the management of water resources, namely law no. 111/2012 "On integrated management of water resources", a preliminary flood risk assessment has not been conducted. Also, article 70 point 3 of the same law provides for the drafting of a Flood Risk Management

Plan taking into account the relevant characteristics of water basins. Also, in terms of legal aspects, there has been a significant change in 2019 in law no. 45 "On Civil Protection". The essential difference lies in the fact that for the first-time, *resilience* is mentioned as a concept to prevent natural disasters and their impact on the territory and community. In other words, if in the previous law the focus was on the measures taken after a natural disaster occurred, now the new law clearly states the prevention of a natural disaster or minimization of the damage to the territory and community. Currently, there is only one National Civil Emergency Plan drafted in 2004 and only one pilot project implemented by the German Agency for International Cooperation (GIZ) in cooperation with key national institutions such as the Ministry of Environment, the Ministry of Agriculture, Rural Development and Water Administration, Ministry of Internal Affairs - General Directorate of Civil Emergencies and local government of Shkodra Region (Flood Risk Management Plan for the lower part of the Buna and Drin rivers).

1.2.2 Impact on the urban environment (case study of Tirana)

According to historical data, the most endangered cities from the flooding phenomenon are the ones that lay in the western part of Albania due to three important factors: proximity with the Adriatic and Ionian Sea, presence of major water bodies and massive urbanization. Major cities such as Shkodra, Lezha, Durrës and Tirana are always under pressure during wet periods (often November – February) because intensive rainfalls bring out problems related to urban environment. These issues include: urban drainage system, water supply and waste water system, lack of green and open spaces, soil impermeabilization etc. In general, these are all issues related to the planning process and consequently competence of local authorities.

Being one of the largest municipalities in Albania, Tirana always has been on the front line regarding environmental issues specifically on air and noise pollution, reduction of green spaces and lately on climate change facts. Year by year, during summer seasons Tirana has become hotter experiencing heat weaves and turning into an "Urban Heat Island (UHI)". An UHI is the part of the city which is warmer than its surroundings due to human activities (transport, construction activities etc.). The contrary happens during autumn and winter season; there is an increased flow of rain water in streets and in main transport nodes and also along the riverbanks.

Besides climatic aspects, Tirana is the city where a large majority of Albanian population has been concentrated in this metropolitan area and even in its suburbs. The uncontrolled and rapid growth of the city has led to high levels of informality regarding the urban planning process. In fact, urban management generally only tackles the formal part of the city because urbanization is a spontaneous process and sometimes it is not controlled properly by the authorities. Meanwhile, urban planning is a limited process due to zoning and land use regulations. This means that informal settlements have a big probability to be exposed to catastrophic events because of the insufficient cover in proper urban infrastructure. One of the major factors for the rise in urban flood damages is simply the increasing number of population and assets that are physically exposed to floods in cities.

The example of Tirana, the capital city of Albania, is one of the cases where flooding happens due to the combination of three main reasons: presence of two rivers (Lana River, Tirana River), urban infrastructure problems and lack of open green spaces. Hydrological conditions during autumn and winter season often lead to the rising levels of rivers within several hours, particularly in Lana river. Vegetation cover has the effect of intercepting part of the precipitation that can generate runoff and protecting the soil against erosion. Loss of that cover or replacing it with structural measures that include massive use of concrete has led to more frequent flooding owing to precipitation not being intercepted and clogging of the rivers. This is the exact moment where urban infrastructure, mostly the drainage system, should help preventing that water overflows into streets and neighborhoods. In the case of Tirana, the drainage system is in poor condition mainly caused by the lack of maintenance by the competent authorities. As a result, river water that overruns its banks combined with heavy rainfall often leads to a chaotic situation in Tirana. Somehow, open green spaces which have the effect of intercepting part of the precipitation that can generate runoff and protecting the soil against erosion day by day are being replaced by construction sites.

1.3 Hope for the best and plan for the worst!

As it was mentioned above, Albania has no specific contribution to climate change compared to other countries but surely it is a country affected by its consequences. When we discuss about planning a city during the climate

change era, we also need to consider urban resilience. In fact, it should be a must. Urban resilience is the capacity of the whole urban system to deal with such natural disasters such as flooding or other extreme events. In other words, it refers to the level of preparedness of the urban complex in order to return to an environmental-economic-social balance after the events happens. One thing we know for sure: flood risks cannot be entirely avoided, so they have to be managed in order to minimize all kinds of damage (*direct or indirect and tangible and intangible*). Concretely, to increase urban resilience in the frame of flooding events every planning authority must follow up three important phases:

1. **Measuring and monitoring urban flooding.** Firstly, the analysis should focus on updated hydro metrological data in order to help other institutions and academics to carry out studies related to climate change effects. Since Tirana is a large municipality, there should be more than one hydrological station because the rainfall quantity or even the temperature cannot be the same in different parts of the city. According to the Institute of Geo Sciences, Energy, Water and Environment (IGEWE) monthly climate bulletin, the city of Tirana has only one hydrological station and one per each administrative unit. Secondly, during days which have been forecasted to go through with intensive rainfall, there should be a monitoring process to identify vulnerable spots, neighborhoods or even streets which are prone to floods. This should be a constant process in order to measure areas and to understand why some surfaces are always under water when it comes to rainy days. This way, the flood type can be identified in terms of depth, flow velocity and the duration. By identifying all these aspects, there could be created a risk map related to floods by (a) combining vulnerable parts in the city in terms of environmental, economic or social conditions, and (b) pointing out water bodies all over the city that are a potential to be inundated during wet periods. The advantage of such comprehensive risk assessments is that it is possible to compare the components of risk in quantitative terms.
2. **Flood response.** Flooding response refers to measures to reduce adverse impacts during flooding undertaken from individuals to local government. These should all be pre-planned measures to reduce the impacts mainly to the community and then to infrastructure. Once we can understand where all the vulnerable areas are and what's wrong

in terms of infrastructure (whether there is no infrastructure at all or it is amortized), planning authorities can interfere in time before the impact. Best practices undertaken by other cities that are always under pressure when it comes to floods could help reacting quickly to such a significant event. Another important aspect is the flood emergency plan including early warning systems. Early warning systems could help inform authorities that the water level is rising above the warning level. In Albania such systems have not been implemented yet in a local level. However, on behalf of the "Adaptation to Climate Change through Transboundary Flood Risk Management in the Western Balkans" project, implemented by GIZ, a flood forecast system is being established (Panta Rhei), concretely for the Drin-Buna Basin. Also, in 2015, the municipality of Tirana introduced the Tirana Climate Change Adaptation Action Plan, a document which brings out mostly actions to be taken to manage risks and build climate resilience across essential public infrastructure and services. Such documents should also be produced by the municipalities that suffer from the impacts of climate change because it includes projections and scenarios on climate components such as temperature, precipitation, wind and storms.

3. **Flood reduction.** One element which has proved successful in fighting floods and its devastating effects on people and environment is the interaction with nature otherwise known as 'green infrastructure' (GI). One important element of GI in the city is simply the urban greenery which should be considered as a "regulatory instrument". These spaces slow down the speed of flow and water collection in case of heavy rainfall, but also infiltrate this amount of water by improving the hydrological cycles of the soil. Another aspect of GI is the riparian buffer located near a riverbank. During flood events, riparian vegetation slows down runoff by absorbing excess water, reduces peak flow and helps to mitigate potential flood damage downstream. In other words, special importance should be placed on greenery; ideally these spaces should increase in number and not be replaced with construction sites. Other GI measures easily applied in the city include green roofs, use of permeable pavements or raingardens. In other circumstances, simply maintaining the

existing infrastructure with acceptable conditions is one of the main elements of reducing flood impact on the urban environment.

03. Kosovo

Executive Overview

High air pollution in Kosovo imposes the need to implement efficient measures, which would reduce the level of carbon dioxide from old buildings and improve air quality. The Ministry of Economic Development in cooperation with the Kosovo Agency for Energy Efficiency has started the implementation of several projects, which aim to increase the quality of buildings in the country.

With the Energy Efficiency Action Plan, Kosovo during the period 2010-2018 has aimed to reach the target of 9% in electricity savings. High dependence on fossil fuels, lack of human and financial capacity, unsustainability of projects, lack of monitoring mechanisms, old and unrenovated buildings continue to be a problem in increasing energy efficiency.

Kosovo municipalities are an important link in the implementation of energy efficiency measures. Unfortunately, only the municipality of Gjilan, out of 38 municipalities in Kosovo, has created a Municipal Plan 2019-2021, for energy efficiency. Although required by law, municipalities do not have energy managers or special funds to apply efficient measures.

Kosovo has lagged behind in meeting the targets and obligations arising from both the Stabilization and Association Agreement and the Energy Community. According to the findings, even the 9% target can not be expected to be reached, while European Union countries are aiming to reach the 20% target in the next two years. Therefore, state institutions must show seriousness in this regard and take concrete steps to reduce electricity costs and the damage that caused to the environment.

Generating electricity using fossil fuels and its uncontrolled consumption is a global concern. Seeing these problems, various experts have explored the possibilities to reduce the use of fossil fuels and find more efficient methods for energy production as well as increase energy performance in buildings.

Buildings are considered to be the biggest polluters, which emit about 40% of carbon dioxide. Awareness of the importance of efficient measures for

energy production and cost reduction remains low in Kosovo. A large number of houses or residential buildings do not have thermal insulation or any other efficient measure. To increase the performance of buildings, public institutions in Kosovo have begun to take some efficient measures such as replacing doors and windows, thermal insulation of the building and installation of central heating.

3.1 Energy Efficiency in The Western Balkans

Although, over the last 15 years, the countries of the Western Balkans have made progress and the energy intensity has dropped somewhere around 20-25%, they appear as energy-intensive countries 3 times more than the 28 EU countries and 1.6 times more than the new member states from Central and Eastern Europe.

According to international reports, the largest components of final consumption are the residential and transport sectors with 50% to 70% of the total amount. Industry is also a major consumer in Montenegro, northern Macedonia, and Serbia. Reports from the International Energy Agency and the World Bank indicate potential energy savings in the six Western Balkan countries, namely: up to 10% in the transport sector; 10-35% for family homes; 35-40% in the public sector; 10-30% in services; and 5-25% in trade and industry.

If we talk in monetary terms, by 2020 public buildings and family houses can provide savings worth 805 million euros. These savings would have significant impacts on trade balances and the budgets of the public and household sectors, on improving energy security, on protecting against the adjustment of unnecessary energy tariffs, and would contribute to economic growth.

The countries of the Western Balkans are members of the Energy Community, whose mission is to expand the EU internal energy market in Southeast Europe. In 2009, the Energy Community emphasized the importance of energy efficiency and decided to include relevant EU legislation in its legal framework. The countries of the Western Balkans, as members of the Energy Community, are obliged to transpose these acts into their domestic legislation, namely:

Directive 2012/27 / EU on Energy Efficiency sets out regulatory measures to promote energy efficiency throughout the energy chain (from production to consumption) and to reach the 20% target by 2020.

Some of the main measures set out in Directive 2012/27 are:

- Establishment of mandatory energy efficiency schemes or equivalent alternative measures;
- 1% of the obligatory annual renovation of government buildings; promotion of energy audits;
- Promotion of efficient heating and cooling; measures to enable and develop energy requirements or needs, etc.

Directive 2010/31 / EU on Energy Performance of Buildings, which sets out minimum energy performance requirements for new and existing buildings, taking into account external climatic and local conditions, as well as indoor climate requirements and cost-effectiveness .

International institutions, especially EU countries, are the largest contributors to the Western Balkans. Although the countries of the Western Balkans have shown success in some respects, major changes still need to be considered EU partners when it comes to energy efficiency. Figure 5 shows the EU contributions to the Western Balkan countries during the period 2007-2016.¹¹

The main supporters of technical assistance in the Western Balkans are:

Gesellschaft für Internationale Zusammenarbeit (GIZ),

United Nations Development Programme (UNDP),

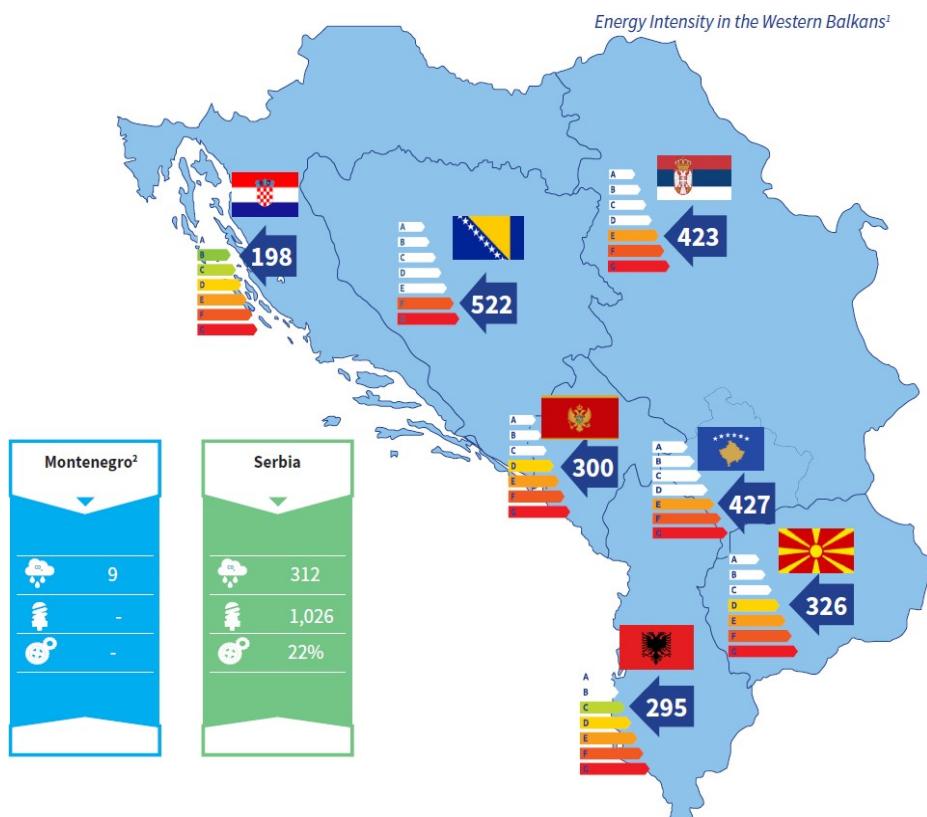
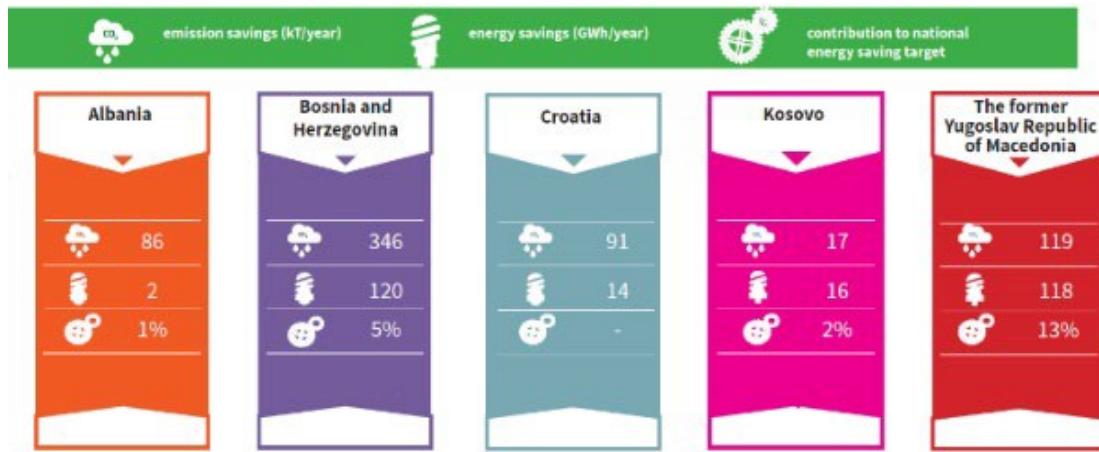
United States Agency for International Development (USAID),

Western Balkans Investment Framework (WBIF), Green for Growth Fund (GGF),

European Bank for Reconstruction and Development (EBRD),

Regional Energy Efficiency Programme (REEP) finanziert durch (EBRD),

European Investment Bank (EIB), Kreditanstalt für Wiederaufbau (KfW), World Bank Group (WB).



3.1.1 The Government Commitment on Energy Efficiency

In 2005, the "Kosovo Energy Strategy (2005-2015)" adopted for the first time, which mainly focused on energy production through fossil fuels, leaving aside renewable energy sources. This strategy reviewed in 2009 with the "Energy Strategy of the Republic of Kosovo 2009-2018". Although in 2018 EU countries focused on clean alternative sources, Kosovo as one of the strategic objectives within this Strategy continued to have the use of fossil fuels, namely lignite.

The 2009-2018 strategy highlights the importance of harmonizing domestic legislation with EU directives, norms and standards. Compliance of local legislation with EU legislation is an obligation for Kosovo arising from the Stabilization and Association Agreement, which entered into force in April 2016. The strategy envisages the implementation of objectives 20-20-20 of the EU plan. In the field of energy, which requires EU countries that by 2020:

1. To reduce by 20% the emission of greenhouse gases;
2. Increase the share of renewable sources in energy consumption by 20%;
3. 20% improvement in energy efficiency.

Kosovo's integration into the common regional market involving the Energy Community Contracting Parties; implementation of the energy acquis related to: competition in the energy market; environmental protection; energy efficiency and renewable energy sources are some of the obligations arising from this Agreement that Kosovo must meet. In this regard, the Ministry of Economic Development has drafted the "Energy Strategy of the Republic of Kosovo 2017-2026".

Integration in the regional energy market by all contracting parties of the Energy Community is one of the objectives of this Strategy. This means that Kosovo must transpose and implement all EU directives and regulations governing the field of energy and environmental protection. However, implementing EU measures and standards in Kosovo is likely to be very challenging; especially as energy capacity, building continues to rely on fossil fuels.

In terms of policy planning, Kosovo has drafted the Kosovo Action Plan for Energy Efficiency (2010-2018). During the drafting of this plan, it noted that the strategic objective 20-20-20 is extremely ambitious for Kosovo. Therefore,

this plan has approved the indicative targets of 9% or 1021.08 (ktoe) to achieve at the end of 2018 to achieve the energy saving value of 91.89 (ktoe). This target is set by Directive 2006/32 / EC, which aims to make the final use of energy as economical and efficient as possible, by setting incentive targets and creating the appropriate legal, institutional and financial framework to remove barriers that hinder the use of energy efficient.

However, with the entry into force of Directive 2012/27 / EU, a target of 20% for energy savings by 2020 was set, and Directive 2006/32 / EC repealed.

The paper will continue to analyze the progress and stagnation of Kosovo institutions in achieving the 9% target, as achieving the 20% target by 2020 for Kosovo is almost impossible.

3.1.2 Legal And Institutional Framework

The legal framework governing the field of energy in Kosovo is partly in line with the EU acquis. The main acts that regulate this field are:

The Law on Energy (No. 05 / L-081) sets out the principles and general rules in the energy sector which aim to guarantee safe, sustainable and high quality energy supply, so as to create conditions for a functional, transparent and competitive open market. This law aims to promote more efficient use of energy, increase of energy from renewable sources and cogeneration, protection of the environment from energy activities and actions by which energy policy and sector development planning are created and implemented. energy;

The Law on Energy Efficiency (No. 06 / L-079) regulates the promotion and improvement of energy efficiency, in order to set energy efficiency targets and achieve these targets in implementation of energy efficiency action plans , development of energy services market and other energy efficiency measures;

Administrative Instruction on Energy Audit (No. 01/2012) aims to institutionalize energy auditing in order to increase the efficiency of energy use in Kosovo and determine the categories of customers who are obliged to be audited;

The Law on Energy Performance in Buildings (No. 05 / L-101) aims to promote the improvement of energy performance in buildings, taking into account the external and local climatic conditions, as well as the requirements for indoor climate and cost effectiveness;

Regulation on Inspection of Heating and Air Conditioning (MESP No. 01/2018) sets out the rules for inspection of heating systems and air conditioning systems installed in buildings;

The Law on Electricity (No. 05 / L - 085) defines rules and measures for the functioning of the electricity sector, in order to guarantee safe, reliable, regular and quality supply of electricity, at real prices, having regard to the preservation of the environment and its efficient use;

The Law on the Energy Regulator (No. 05 / L-084) defines the competencies, duties and functions of the Energy Regulatory Office. Also, including the conditions for issuing licenses for performing activities in the field of energy, certification of activities of transmission operators in the energy sector, procedures for granting authorizations for the construction of new production capacities, creation and efficient functioning of competitive energy markets , consumer protection, as well as criteria for regulating tariffs and conditions for energy supply;

The Law on Construction (No. 04 / L-110) regulates the issuance of construction permits, compliance with construction permit requirements and the issuance of certificates of use within the territory of Kosovo.

The responsible institution that prepares and monitors the implementation of legislation for the energy sector is the Ministry of Economic Development. This institution is responsible for Energy Efficiency and Renewable Energy policies, as well as action plans for these two areas, in accordance with the relevant EU legislation.

The Kosovo Energy Efficiency Agency is a central body of state administration, which operates within the ministry responsible for the energy sector. This body is responsible for conducting or contracting analyzes, recommending policies to promote energy efficiency, and drafting a National Energy Efficiency Action Plan.

3.1.3 Challenges to Promote Efficiency in Kosovo

Lack of human capacity and special funds are the main challenges for the implementation of projects and the promotion of energy efficiency in Kosovo.

The Kosovo Agency for Energy Efficiency and the Ministry of Economic Development are the two institutions responsible for achieving Kosovo's targets in Energy Efficiency and harmonizing local legislation with the EU acquis.

However, the implementation of these joint obligations remains quite challenging due to insufficient allocation of funds by the Government, non-implementation of projects related to efficient measures in public buildings and the slow implementation of projects financed by the World Bank and KfW.

In addition, mixed and unclear competencies pose another challenge for the Kosovo Agency for Energy Efficiency, which is costing them in the smooth running of their work. Reports of projects and achievements in the Municipality performed by Kosovo Agency for Energy Efficiency.

In addition to the two institutions mentioned above, the Ministry of Public Administration is also responsible for some work related to energy efficiency in public buildings. Within this Ministry, the Department for Standards and Policies of Engineering and Management of Government Buildings, is responsible for the direct management of 69 government buildings and has access to all costs of electricity, heating, water, etc.

In addition, the Ministry of Environment and Spatial Planning, through the Department of Spatial Planning, Construction and Housing, has been the bearer of several legal acts that aim to increase energy performance in buildings. This Ministry has been the sponsor of the Law on Energy Performance in Buildings (No. 05 / L-101) as well as the bearer of several bylaws that regulate: Thermal Energy Saving; 15 Minimum Energy Performance Requirements in Buildings; 16 as well as Energy Performance Certification in Buildings.¹⁷

Since the tasks and responsibilities towards energy efficient measures distributed in some institutions and the communication between them is not efficient, then the smooth running of the works is difficult to achieve.

3.1.4 Public Buildings in Kosovo

Kosovo is lagging behind in the implementation of the overall target, due to the lack of financial resources to invest in energy efficiency measures. Energy saving planned in the National Medium Plan (2013-2015) 18 for 2015 was 6% but only 4.4% of energy saved.

Energy efficiency in public buildings is a project, which offers the opportunity to the Government and Municipalities to reduce their budget expenditures.

According to statistics obtained from the European Commission report, 19 The Government of Kosovo spends over 22 million euros per year on energy bills in public buildings and could save 20% -30% per year if energy efficient measures implemented. The government owns 369 buildings, or about 18.7% of the total stock of public buildings. The total area of these buildings is 745,301 m² and the total energy consumption for 2013 was close to 91,843 MWh (or 7.9 ktoe) or 6.5 million euros.

The housing sector represents the largest share of energy consumption with 39%, industry with 27%, transport 23%, services or the public sector consumes 9% and agriculture with 2%.²⁰

The stock of municipal buildings includes about 1600 buildings with an area of 1.6 million m², with a total energy consumption of 217,196 MWh in 2013 (18.68ktoe) or 15.8 million euros. Municipal buildings are mainly schools, kindergartens, health centers and municipal administration buildings. The main energy sources for the space inside the building and for water heating in municipal public buildings are biomass sources, namely: firewood about 30%; oil 28%; electricity 23%; lignite 14%; and central heating about 4%. In addition to buildings, the largest sector of energy consumption are public roads with about 35 GWh per year, or 4.5 million euros per year.

The target for energy savings in Kosovo for the period 2010-2018 has been 9%, where for every three years it intended to reach the target of 3%. In the first period (2010-2012) the target of 3% reached. However, this target was not achieved in the second period (2013-2015). Reports show that there have been delays in the implementation of projects and that from the planned 3% it has been possible to save close to 1%.²² For 2013, public buildings at central and local level had energy consumption of 3,864 (ktoe), while for the year 2015, 4.71 (ktoe).²³ Regarding the third period (2016-2018) has not reported yet, but according to the information collected the target of 3%

expected to achieved, which in total will contribute to achieving the target of 7%. The new plan for the period 2019-2021, which planned to complete at the end of 2018, has not yet implemented and as a result, the new targets for 2019-2021 have not been set.

In addition to the Energy Efficiency Action Plan, in 2020 it expected to draft an Environmental Protection Plan. The new plan expected to increase the energy saving target from 9% to 11%, which means that for 2019 and 2020 energy efficiency should increase from 1% for each year.

To achieve energy efficiency targets in public buildings it is imperative that they renovated. A large number of public buildings in Kosovo are obsolete as more than half of Kosovo's building stock built between 1970 and 1985. These buildings require immediate investment in thermal insulation, replacement of windows, which must be efficient, efficient heating of the space inside the buildings and in the hot water system to preserve the value of the property and to improve the comfort of the participants in the building..

In addition, there is an urgent need to improve energy efficiency statistics, to enable accurate monitoring, evaluation and verification of savings achieved. The Monitoring and Verification Platform (hereinafter 'MVP') should be put into operation as an official tool for monitoring and verifying energy savings.

The European Union Office in Kosovo has requested the EU institutions to assist Kosovo in establishing a special fund for Energy Efficiency. The fund established in late February 2019, where the main donor is the EU. The fund will finance energy efficiency measures in public buildings such as schools, kindergartens, health buildings, hospitals and other public buildings. The investment reimbursed through the reduced energy bill. In this case, the building continues to pay the same level of energy bill, while the difference before and after the implementation of energy efficiency measures is returned to the fund through an energy service agreement or similar.

As energy consumption in buildings continues to increase, the need for efficient measures in buildings is inevitable. In the following, we can see some statistics, which forecast the final energy consumption in all sectors expressed in (ktoe), 24 as well as the overview of energy consumption in government buildings, report completed in 2012.

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Sektori i industrije	356.20	376.20	389.37	398.19	398.87	399.93	410.89	420.75	431.71	442.37
Sektori i amvisërisë	503.93	525.84	541.7	555.6	574.25	589.63	607.57	623.32	641.82	658.35
Sektori i shërbimeve	114.51	120.88	125.74	130.54	136.66	142.03	148.11	153.59	159.20	163.95
Sektori i bujësisë	21.18	21.98	23.18	23.77	24.51	25.16	25.89	26.56	27.29	28.02
Sektori i transportit	342.36	349.21	356.19	363.31	370.58	377.99	385.55	393.26	401.13	409.15
Gjithsej	1338.19	1394.12	1436.18	1471.40	1504.87	1534.74	1578.01	1617.48	1661.16	1701.84

Overview of energy consumption forecast in all sectors

3.1.5 Projects in Cooperation with International Institutions

The projects in which Kosovo Agency for Energy Efficiency and the Ministry of Economic Development are engaged are mainly funded by international institutions.

Since 1999, international institutions have invested in public institutions and enterprises in Kosovo. Energy efficiency is included in these investments. Some of the donors who have contributed in this area are: the European Commission with 16.5 million euros and the World Bank with 31 million euros, some projects of which are still ongoing. Also, the European Bank for Reconstruction and Development (hereinafter 'EBRD') through a type of loan given to commercial banks has invested in projects for residential buildings. However, there is no accurate data on the amount of those loans and whether allocated for the intended purpose; at least officially, the country's institutions do not possess this data. The problem here was also with the EBRD, which did not report to the country's institutions on the progress of the project.

Based on these data, we understand that the key problem for the progress of many projects is the lack of transparency in the management of money and the lack of monitoring of project achievements.

Civil society has also raised concerns about the sustainability of project development, an issue that not addressed during the design and implementation of projects in Kosovo. There are projects that have implemented within the set timeframe, but no one offers certainty whether those projects will continue to have a continuous impact on sustainable development in Kosovo, in the future.

Based on the draft documents published on the KEEA website, investments in efficient measures are taking place, and in some facilities, the works have completed. It has mainly invested in six different types of buildings: prosecution and court buildings; industrial buildings; public educational institutions such as universities and schools; regional hospitals and family medicine centers; transport buildings; as well as in the pilot-design "Near Zero Energy House" (hereinafter 'NZEB') in public buildings.

In the sector of prosecution and court buildings, the investment was € 5,000,000. A total 36 buildings were beneficiaries, six of which were prosecution buildings and 30 court buildings.

In the industrial sector, the potential of energy efficiency in the industrial sector in Kosovo has been studied, a project which has had the cost

€800,000. The focus has been on energy efficiency potential in small, medium and large enterprises.

In the sector of public educational institutions, respectively universities and schools, the investment amount was € 10,000,000. Ten primary schools foreseen, mainly in rural areas, and 16 universities and faculty buildings.

In the sector of regional hospitals and FMCS, the total investment amount was € 10,000,000. 32 buildings were foreseen, six buildings in the municipality of Prizren, one hospital building in Ferizaj, one old hospital in Gjilan, six buildings in the Peja region, seven buildings in the Mitrovica region and 17 in the Prishtina region.

In the transport sector, there has been a project to study the potential of energy efficiency in the transport sector. The total investment amount was € 600,000, where the focus was the potential of energy efficient public transport including air, roads and railways, the potential of using bio-fuels and natural gas, respectively LPG.

In the public buildings sector, the pilot project "Near Zero Energy House" has reached the investment amount of € 1,500,000. The focus has been to introduce, develop and strengthen the commercial market of innovative energy renewal technology.

Some EU investments have made in cooperation with the Department for Standards and Policies of Engineering and Management of Government Buildings within the MPA, where it shown that one of the most efficient buildings is the Palace of Justice, which has an area of 50,000 m². This facility in relation to other buildings has been successful in terms of efficiency considering that it supplied with electricity by photovoltaic panels and heated by geothermal pumps. After a comparison of some buildings with the Palace of Justice, major changes have been noticed in terms of energy saving. Immediately after the results released, this department decided to change the lighting in government buildings from fluorescent to economical ones and to look at the possibilities for other interventions. Like all institutions, this department sees a major problem in the lack of monitoring of interventions in buildings. However, they have stated that they are working to make a base date collects energy and thermal loss information for each building.

As can be seen, the main problem during the implementation of projects is the weak monitoring mechanisms that consequently affect the non-achievement of planned results. In Kosovo, investment has made in the implementation of effient measures, but unfortunately, there are lack of data on the benefits that investments have brought. During the data collection, the Kosovo Agency of Statistics also contacted, who do not have any information on efficient measures in public buildings. During the interview, it shown that among other problems, there is a lack of will of various ministries and institutions to provide data or publish them.

3.1.6 Promoting Energy Efficiency

Although work has done since 2008 to raise public awareness of the importance of energy efficiency, the projects have not been successful. During the interview with KEEA discussed about the steps that have taken to promote EE. KEEA shows that they received this competence in 2018, since until recently it was part of the MED. The money allocated by the MED for the promotion of EE and RES has been from € 50,000 each year, but KEEA does

not have accurate information on where these funds allocated. The agency has shown that from 2018 there is a program, not very comprehensive, for energy efficiency that has a promotional character for the local level. AKEE considers that since it is now under their competence, this program will contribute to local level services. Whereas, for the project to receive a wider discourse, they consider that there should be millions of investments to achieve a full awareness of citizens about the EE, since the current fund is small.

Another MED project developed during 2012-2013 in cooperation with UNDP and five Municipalities in Kosovo. The idea was to install television monitors in each municipality would show the electricity costs inside the building. However, after a week in the Municipality of Prishtina, the monitor turned off and the leaflets distributed on the ground. As a result, the project failed from the beginning and stopped.

Another project undertaken by MED has been the promotion of energy efficiency measures on television channels. From the information received within the institutions, it was said that the promotion was published very rarely, which made it impossible to raise awareness or achieve the desired results.

This shows that a key problem in the implementation of projects and the achievement of results in Kosovo, especially in projects aimed at promoting energy efficiency is the lack of monitoring. In the absence of monitoring mechanisms, the projects do not show sustainability.

In addition to state institutions, civil society has also taken several initiatives to promote EE. However, even the projects implemented by them have not managed to show the desired results or raise awareness of the importance of these measures. Although, they consider these campaigns as proper mechanisms, the problem lies in the way of design, limited funds and lack of sustainability of projects. They point to the Government, which does not have a concrete plan for the implementation of projects that promote energy efficiency.

Members of civil society consider that in order to ensure the sustainability of EE projects, the Government should be committed in this regard and say that this is the year of the ET. In this case, all institutions would be committed to achieving common goals and would allocate a special fund, where

unnecessary electricity costs would stop. They estimate that with small campaigns the effect not desired, while they believe that awareness campaigns are only an element of promotion, as they see the problem of education on sustainable development as a major issue. Civil society believes that in order to achieve results then it is necessary to work with citizens from the younger generations, from children in kindergartens to those in primary and secondary schools.

During the interview of MESP officials, it shown that although they are not directly competent to promote energy efficiency, they support all initiatives of institutions in this regard. In terms of informing citizens about efficient measures, they think that in an indirect way they are informed. This is because many citizens make interventions in their homes to increase comfort inside the homes, which considered an energy efficient measure even though they not informed that those interventions constitute efficient measures.

The findings of this report show that the rate of promotion of energy efficiency remains relatively low, due to limited funding and lack of sustainability of projects. Citizens not informed about the interventions or measures they can take to contribute to energy efficiency. If the interventions took place in all sectors, especially in the residential one, then the benefits would not only be for the families and industries, but for the state and the economy of the country. With the reduction of electricity production, the consumption of electricity decreases and as a result the performance of buildings increase

3.1.7 Energy Efficiency in Municipalities

Pursuant to Article 6 of the Law on Energy Efficiency (No. 06 / L-079) starting from February 28, 2019, every three years, municipalities prepare and submit to KEEA the draft municipal action plans for efficiency of energy. These plans should include proposed policies and measures to improve energy efficiency in all sectors operating at the municipal level. However, before the Municipal Assembly approves the action plans, KEEA will have to assess the compliance of the respective plan with the national energy efficiency policies, targets and plans, as well as to give an opinion with recommendations. Pursuant to this law, municipalities are obliged to monitor the implementation of the plan and the achievement of energy saving targets. To this end, municipalities

should establish and manage an information system for collecting data on energy consumption in municipal buildings and monitor the savings realized from the implementation of measures in public buildings. As required by the EU, monitoring and reporting expected to done using the platform based on the official website for reporting, the monitoring and verification platform (MVP).

Municipalities play a key role in achieving energy and environmental improvement targets. This is because municipalities through direct or indirect management affect these areas, especially through the sector of strategic planning and sustainable development; public services; environmental protection including waste management, central heating and cooling; public transport; public housing as well as other services.

Municipalities are also obliged to promote national energy efficiency policies at the local level and to inform the citizens on how to implement measures to increase energy efficiency and the benefits they bring.

Referring to Article 6 of Law 06 / L-079, Municipalities and other public institutions at the local and central level have the right to use, whenever possible, energy service companies and contract energy performance for renovations and implementation of plans to improve energy efficiency in the long run.

In order to collect the most accurate information, municipal officials from the seven main municipalities in Kosovo interviewed, respectively: Ferizaj, Gjakova, Gjilan, Mitrovica, Peja, Prishtina and Prizren. The findings show that none of the municipalities has strictly implemented the obligations arising from the law on energy efficiency and bylaws on performance in buildings, sponsored by MESP.

Non-compliance with legal provisions has been due to shortcomings and non-implementation of the legal framework itself. The MESP stated that after the completion of the entire process for certification of auditors and independent experts, and then all municipalities will be obliged to implement the law. However, this process has not yet completed because the MED has not yet fulfilled its obligations to certify independent auditors and experts.

So far, all initiatives that have taken at the local level have supported by foreign donations and projects. The number of own municipal interventions is very low. Some of the measures that the municipalities themselves have taken are the change of public lighting with LED lights and the use of the ENMASOFT program, which aims to manage energy in buildings and calculate all building costs. Some Municipalities as an efficient measure have had public heating, respectively the Municipality of Prishtina through Termokos and the Municipality of Gjakova through the City Heating.

Central institutions consider all renovations as efficient measures even though they not called such. Institutional reports state that municipalities continuously take efficient measures in their buildings. Referring to the Law on Budget for 2019, about 50 million euros are planned for the renovation or restructuring of public buildings of Municipalities in Kosovo.

Although central institutions consider renovations and restructurings as efficient measures, it is unclear whether they really are. So far, there is no monitoring or statistical report on the measures that municipalities are taking and the impact they have on achieving strategic objectives, targets and increasing the performance of buildings.

Of the seven municipalities interviewed, all are required to draft a municipal action plan for energy efficiency, for the period 2019 - 2021. Only Gjilan has finalized this plan, while other municipalities have only drafts, which have not yet approved by Municipal Assemblies. As these plans are still in process, Municipalities need to be aware of setting realistic objectives so that the plans can implemented. Delays in this process come because of lack of human and financial resources. Although mandatory, most municipalities do not have an energy manager or special municipal funds for energy efficiency.

So far, very few municipalities have taken steps to promote energy efficient measures or increase the energy performance of public buildings. Due to staff shortages, officials assigned to energy management are overworked and fail to meet their obligations. Because of these problems, municipalities find it difficult to demonstrate that they are dedicated to increasing energy efficiency and applying to EU-funded funds or programs.

3.1.8 Efficient Materials

While the sustainability and energy performance of public buildings remains low, citizens can implement some efficient measures in their homes, which would contribute to reducing energy costs. The eight effective measures that can be taken are:

- Renovation of the building envelope by installing thermal insulation on walls, roof and floor;
- Replacement of existing windows and doors with double or triple glazed windows;
- Replacement of existing heat supply systems;
- Replacement of the existing water heating system with Renewable Energy;
- Replacement of existing air conditioning separation systems (<12kW);
- Replacement of existing household appliances such as washing machines, refrigerators, etc. with the most energy efficient labels;
- Replacing existing lighting by installing efficient LED bulbs;
- Installation of Renewable Energy for the production of electricity such as. Photovoltaics.
- All examples below are in line with the guidelines of the Energy Community Secretariat included in the ECS / ENSI study "Energy Efficiency in Buildings in the Energy Community Contracting Parties" and with the measures of renovating buildings with Energy Efficient and Renewable Resources.

Conclusion

During the period, 2010-2018 Kosovo has aimed to reach the 9% energy saving target. Although the results for 2018 have not yet published, achieving this goal seems to be challenging. Duties and responsibilities towards energy efficiency measures are highly decentralized, and because of inefficient communication and cooperation, strategic objectives are difficult to achieve.

Central and local institutions in Kosovo have not shown results in implementing efficient measures and increasing the performance of public buildings. Various local and international projects have invested in the

implementation of efficient measures, but in the absence of sustainability of projects and monitoring mechanisms there are no accurate data on the results of these investments. In this regard, energy efficiency statistics should be improved by making the Platform for Monitoring and Verification of energy savings functional.

Despite the lack of monitoring mechanisms, the lack of human and financial capacity to implement effective measures remains a serious problem. Municipalities play an important role in promoting these measures, but due to the lack of energy managers or special funds for energy efficiency, it is difficult to implement projects and raise civic and institutional awareness. Municipalities are obliged to draft action plans for energy efficiency, but so far, only the municipality of Gjilan out of the seven municipalities interviewed has approved one. In addition, a large number of public buildings built during the period 1970-1985. These buildings require immediate investment to reduce electricity costs.

Increasing energy efficiency, improving the performance of buildings, using renewable resources and reducing costs, in addition to affecting economic development, are also an obligation for Kosovo. However, central and local institutions have failed to meet these obligations. Therefore, in order to keep up with the developed countries of the world, the need for immediate reforms is inevitable, especially in increasing the energy performance of buildings.

3.2 Illegal Waste Landfills in Kosovo

3.2.1 Waste Disposals one of the main Environmental Problems in Kosovo

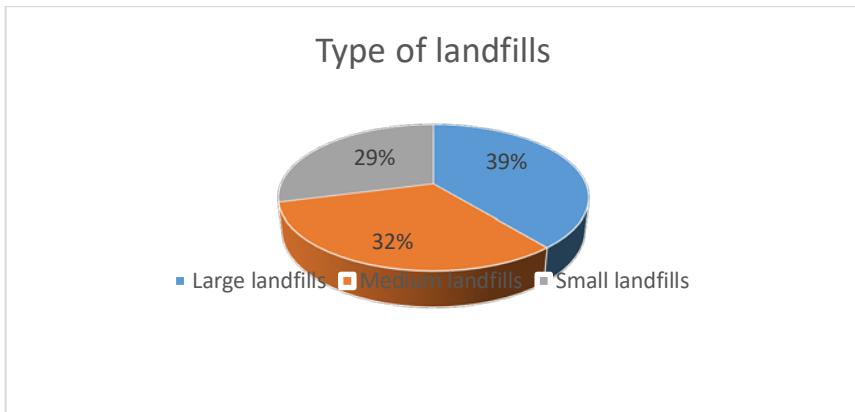
Despite investments, measures and campaigns, the trend of creating illegal landfills is increasing from year to year in Kosovo.

The large number of illegal landfills continues to be one of the biggest problems in Kosovo. This evidenced by the latest report published by the Kosovo Environmental Protection Agency for 2019.

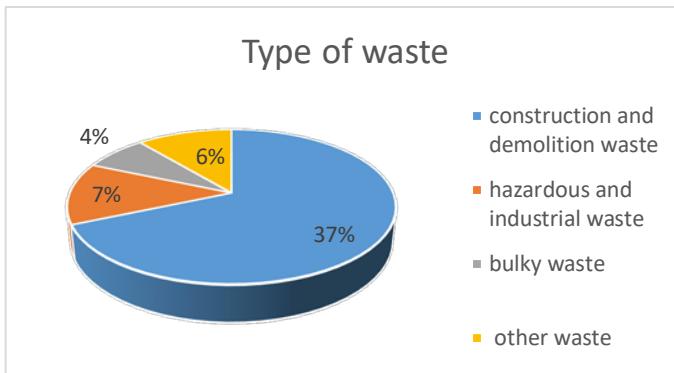


According to the Municipal Waste Management Report in Kosovo, in 2019, around 2529 illegal landfills identified. This number is for 957 higher compared to 2018.

Of the 2529 illegal landfills that have identified, according to the estimate, 39% are large landfills, 32% are medium landfills, while 29% are small landfills.



According to the type of waste, 49% of illegal landfills are municipal waste, 37% are construction and demolition waste, 7% are hazardous and industrial waste, 4% are bulky waste and 6% are other waste.

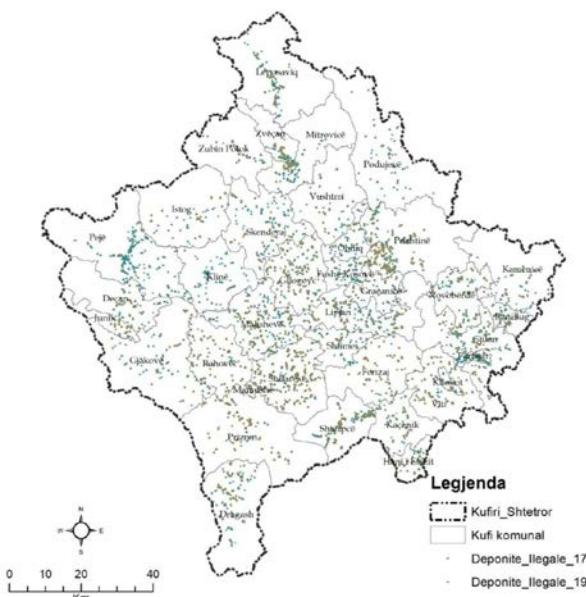


According to the data presented in the report, the region of Gjakova has the lowest number of illegal landfills (118), while the region of Prishtina has the largest number of illegal landfills (582).

The report estimates that the average municipal waste generation per capita in Kosovo is 0.78 kg / inhabitant / day, while the coverage rate with the waste collection service at the national level is about 71%. The rate of waste separation at source remains low with only 6.8% of households having access to this service.

In the context of the main findings, the report emphasizes that the number of illegal landfills is increasing from year to year and that the increase in the level of service coverage and that illegal landfill cleaning campaigns are not enough to stop the trend of creating new illegal landfills.

It is worrying that the measures taken by the Ministry of Environment and Spatial Planning and donor investments have not yielded results in reducing the number of illegal landfills.



During the last year (2019) in order to reduce the number of illegal landfills in Kosovo carried out the campaign "Let's clean Kosovo", supported by the Government of Kosovo through the Ministry of Environment and Spatial Planning, a project worth about 800 thousand euros.

Let's Do It Kosova, as the project implementer, had reported that during the three months of the project implementation (September 15, 2018 - December 15, 2018), thousands of volunteers were engaged, and 803 illegal landfills were removed throughout Kosovo.

Grants for the most active and successful municipalities were allocated in support of activities for the elimination of illegal landfills. The Ministry of Environment and Spatial Planning, together with the German Agency for International Cooperation "GIZ" and the European Union Office in Kosovo, earlier this year launched a 7 million grant for waste management.

During 2019, the Kosova Government support financially some municipalities of Kosovo, which shows good performance in implementation of environmental legislation in general. The Municipalities which shows results on waste management, drafting and approval of waste management plans, implementation of the instruction on mandatory fines, reduction of illegal landfills, creation and maintenance of green areas, providing quality services in the field of waste management as well as waste collection and recycling benefited from this grant.

The expected results to prevent the creation of new illegal landfills did not even give the beginning of the implementation of the Administrative Instruction on mandatory fines (AI MESP No. 06/2018).

The organization "Let's Do It Kosova" based on data collected by municipal environmental and central inspectors, in September this year had reported

that: "during July and August were imposed a total of 310 fines which marked an increasing trend of pronunciation of fines compared to May-June, with 243 fines in total".

The Municipal Waste Management Report in Kosovo, in addition to assessments and findings, provides some recommendations for improving the state of waste management.

The report recommends that:

1. The local level should base on the completion of technical capacities to cover the entire territory with a waste collection and transport service.
2. To enable balanced development, donors or the government should support those municipalities or regions that are lagging behind in fulfilling their legal obligations in waste management.
3. There is a need for more frequent and strategic communication with citizens regarding the legal obligations of polluters, the principles established by law and in particular environmental pollution and the long-term consequences of these actions.
4. Municipalities should also rely on the process of waste separation at source and towards the regional economy.

3.3 Impact of Hydropower Plants on Kosovo Mountain River Ecosystems

Rivers are a very important ecosystem of a country. Their sustainable management presents potential for development and social welfare for the inhabitants of the areas where they are located.

Of particular importance are the rivers that lie in deep mountainous areas and are considered as untouched areas. The ecosystems of these rivers contain a very rich biodiversity of flora and fauna, being also habitats of many endangered species of flora and fauna and a potential for the development of ecotourism and meeting the needs of the inhabitants of these areas.



Civil society organizations in Kosovo have consistently raised the voice of the need to protect rivers from degradation, in particular the protection of Kosovo's mountain rivers.

Rivers flowing in urban areas are mainly threatened by pollution due to urban and industrial water discharges, while Mountain Rivers are mainly threatened by the construction of hydropower plants.

The phenomenon of exploitation of mountain rivers by the construction of hydropower plants is also present in Kosovo. Kosovo has several rivers that lie in deep mountainous areas important for biodiversity. Undoubtedly, the most important are the rivers that lie in the National Park "Sharri" and in the National Park "Cursed Mountains".

The Law on Nature Protection (Law No. 03 / L 233) in Article 11, clearly specifies the activities that are allowed in National Parks. Point 3 states that "in the national park are allowed only works and activities that do not endanger the natural nature", while point 4 states that "in the national park is prohibited the economic use of natural resources."

In the case of hydropower plants that are considered as economic activities that endanger the biodiversity of national parks, these provisions have not been respected by the Ministry of Environment and Spatial Planning.

Research and assessments by governmental and non-governmental institutions have made it clear that the construction of hydropower plants in protected areas severely damages biodiversity and has devastating effects on the surrounding ecosystem, disrupts the water regime of the area and is contrary to the concept of protected areas.

One of these researches is the study conducted by the coalition of Balkan Green Foundation and INDEP, published in March this year. Where research entitled "Hydropower plants in Kosovo, problems and their real potential" has found that:

"Most of the existing small and planned hydropower plants are located within areas of special natural importance such as national parks, strict nature reserves, special protected areas, and areas with many relict and endemic features of flora, vegetation, fauna, natural, plant and animal habitats. This poses a great risk that these areas will be permanently damaged and the natural landscapes and water resources of the country will be degraded."

Among the main environmental problems that come from hydropower plants according to this research are destruction and modification of natural habitats, soil erosion, and damage to forests and nature, drying of rivers, water pollution due to works, and environmental pollution during maintenance.

One of the main recommendations coming from this research requires that: "Hydropower plants should not be used for simple business purposes, but should take into account environmental and European standards and sustainable development requirements".

There has been research on this issue that has been conducted by international organizations. One such survey of hydropower plants in protected areas in the Balkans was conducted by EURONATUR. This research has drawn some conclusions, which clearly speak about the negative impact of hydropower plants in protected areas.

The research states that: "the fact that 32% of all new hydropower projects in the Balkans are planned in strictly protected areas and about 17% in other categories of protected areas shows that this practice is contrary to the guidelines and master plans for hydropower plants, which consider protected areas as untouched areas. The planned hydropower plants are mainly focused on rivers which lie in areas with high ecological values ", it is said in the research.

The research emphasizes that hydropower plants are a threat not only to protected areas but also to other surrounding areas: "Hydropower plants in protected areas will lead to habitat deterioration and will have strong impacts on the river basin as a whole, including valleys and areas where there are potential areas for the construction of hydropower plants. The results and practices prove that the development of hydropower plants in National Parks is a constant threat, not only for the areas of the park itself, but also for the surrounding areas ", says the research.

In the framework of recommendations and key findings, the study requires that "the construction of hydropower plants within protected areas should be done based on relevant studies, which also suggest that even small hydropower plants are not acceptable as a sustainable solution."

Warnings about the negative impact on the environment from the construction of hydropower plants have also come from the European Parliament and the Bern Convention, where it has been noted that hydropower plants are destroying mountain river ecosystems, warning that river drying will have fatal consequences for the environment and especially biodiversity.

The construction of hydropower plants is not in line with the requirements provided by the Law on Waters of Kosovo (Law 04 / L-147), on the advantages of water use.

This law in Article 28 regulates the advantages of water use by listing energy production as the fourth priority after supplying the population with drinking water, use for agriculture and use in industry. In the case of the construction of hydropower plants, the requests of the community for the use of these resources have not been taken into account.

Non-governmental organizations and local community have also come out against these destructive activities. Initially, there were protests against the construction of hydropower plants in Deçan Gorge and Rugova Gorge in the National Park "Cursed Mountains" and later protests against the construction of hydropower plants along the rivers "Lepenci and Lumëbardhi" in Sharr National Park.



The paradox remains the fact that these hydropower plants were built or had started the works for their construction without meeting the legal and administrative conditions and without being provided with the relevant permit.

The problem was also raised at the level of the Government of Kosovo, which the Ministry of Environment was forced to take an interim decision during 2018 to block the process of issuing permits and construction of hydropower plants until a detailed study is done on their impacts.

The issue of this decision has been updated again after it was reported that the outgoing Minister of Environment and Spatial Planning, Fatmir Matoshi, had decided to lift the blockade on hydropower plants without meeting the

conditions that had led to blocking procedures for hydropower plants that were destroying rivers.

Because of the public pressure, the Kosovo Assembly on 15 August 2020, established the Parliamentary Commission of Inquiry on the process of licensing, operation, supervision and application for hydropower permits of the Commission. The Commission of Inquiry initially had a three-month mandate, which was extended for another three months by the Assembly of Kosovo, on the grounds that time was insufficient to meet all decision-makers, residents, to make field visits , interviewing participants in decisions, etc.

The Commission of Inquiry has the duty to discover and investigate the legal basis, the role and responsibility of public institutions and public officials, for possible abuses in this process of issuing consents and permits for the construction of hydropower plants, throughout the territory of Kosovo. The investigation will be the manner of their licensing by the Energy Regulatory Office, the application process and confirmations of water consents, construction permits, operating conditions and monitoring of hydropower plants, the implementation of environmental and property criteria and the implementation of current legislation.

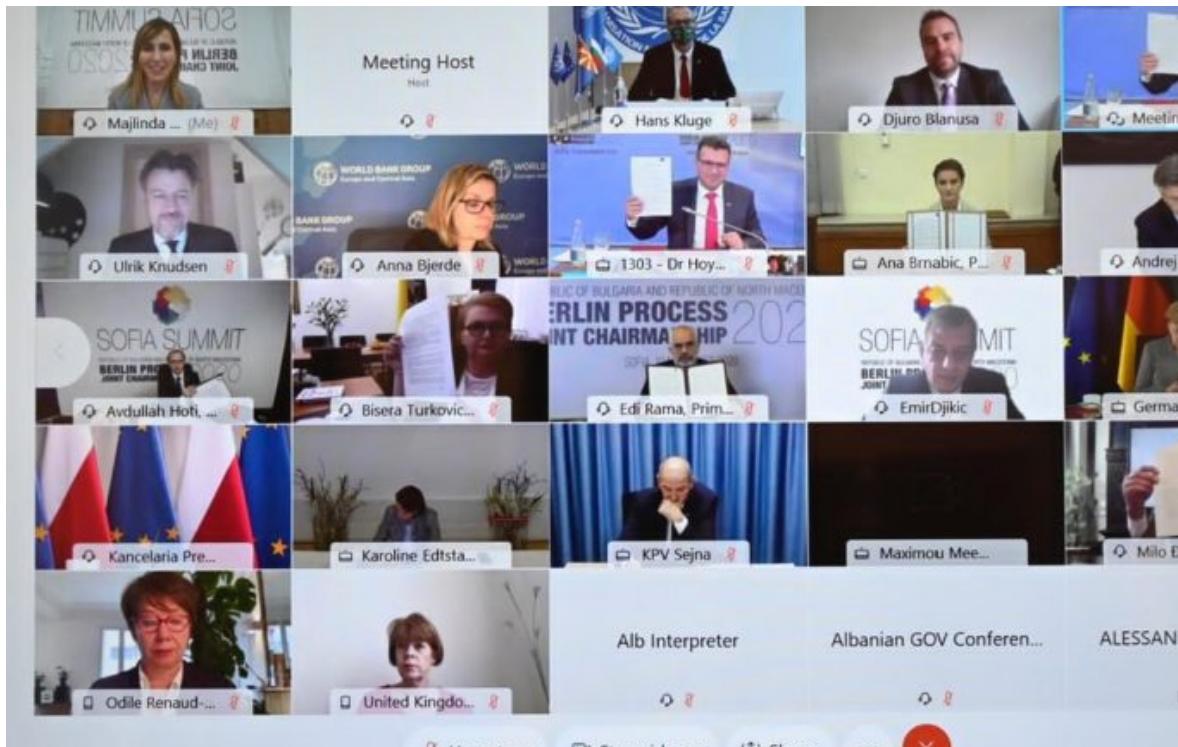
The parliamentary inquiry, in particular the findings and recommendations, regarding the actions and inactions of public institutions in granting permits and consents, will clarify the great public doubts and dilemmas on the one hand, and will restore legitimacy and order in this sector with strategic economic potential and not only for Kosovo.

Despite the fact that this issue is under parliamentary investigation and under investigation by the judiciary, the construction of hydropower plants in protected areas will remain one of the topics and challenges that requires a sustainable and long-term solution by the Government of Kosovo.

3.4 Kosovo in The European Green Economy

3.4.1 Sofia Summit - "Green Agenda"

Under the auspices of the European Union, the countries of the Western Balkans, at the Sofia Summit, signed the "Green Agenda", an agreement aimed at improving environmental protection and transition to a green economy for the countries of the Western Balkans.



This Agreement, accompanied by an Implementation Guide, is considered as a catalyst towards sustainable economic development of the region and strengthening of environmental protection, pushing forward the efforts for de-carbonization and clean energy transition by 2050.

In his speech during the Summit, the Vice President of the European Union, Josef Borel, among other things, said: "The Western Balkans are in the heart of Europe and their future is in the European Union. This is why our commitment has been and remains so strong. We have a common interest in the integration of the Western Balkans and in increasing their prosperity, justice and security."



This agreement came after it was previously initiated at the European Union Summit for the Western Balkans held in Zagreb in May 2020, and which was then supported by an Economic and Financial Plan approved by the European Commission on October 6, 2020. All This was the starting point of the European Green Deal Agreement of the European Commission, which aims to make the European Union economy resilient and climate neutral by 2050, through a set of initiatives and political reforms and financial for comprehensive purposes.

The signing of the regional agreement on the Green Agenda was followed by a mandatory declaration for all leaders of the region, which among other things provides for protection from air, water and soil pollution as a common interest of the Western Balkan countries and the EU.

This statement also includes the commitment to implement policies to minimize the negative impact of agriculture on the environment and climate, and the commitment to provide healthy food at affordable prices for the citizens of the Western Balkans and export markets.

With this declaration, the countries of the Western Balkans also accept European policies for the implementation of a long-term climate strategy and the proposal of concrete activities to stop the loss of biodiversity protect and restore ecosystems and biological diversity.

WHAT DOES THE GREEN AGENDA CONTAIN FOR THE WESTERN BALKANS AND WHAT DOES IT OFFER?

The Green Agenda consists of five main pillars where each of them has objectives which are accompanied by concrete actions supported by relevant financial mechanisms and instruments.

The main pillars of the Green Agenda are:

DE-CARBONIZATION

The first pillar includes climate, energy and mobility targets. Under this pillar, it is planned to facilitate alignment with the EU Climate Law, assisting the countries of the region in the preparation and implementation of long-term climate adaptation through national energy and climate plans, the implementation of the Emissions Trading Scheme.

The first pillar includes climate, energy and mobility targets. Within this pillar it is planned to facilitate alignment with the EU Climate Law. The countries of the Region will be assisted in the preparation and implementation of long-term climate adaptation through national energy and climate plans, as well as the implementation of the Emissions Trading Scheme. Finding alternatives for the replacement of fossil fuels, the development of energy efficiency schemes in buildings, the facilitation of the energy transition process and the decarbonisation of the energy sector, the implementation of rail transport reforms and the development of more environmentally friendly transport, implementation of sustainable urban mobility plans, and other initiatives of this nature will be facilitated.



CIRCULAR ECONOMY

The second pillar concerns the regional economy sector, including targets for sustainable production and consumption. Under this pillar, support will be provided to improve the sustainability of raw material production and the development of some key industries such as renewable energy and tourism, then support for the development of circular economy strategies (waste prevention, recycling, reuse, repair and reproduction), integrated waste management, plastic pollution prevention, and similar initiatives.



POLLUTION REDUCTION

The third pillar includes pollution reduction with targets for air, water and soil protection. Within this pillar, the countries of the region will be assisted in the development and implementation of Air Quality Strategies, implementation of clean technologies, strengthening of air and water quality monitoring networks, involvement in networks and pan-European and cross-border agreements, environmental monitoring and investments in wastewater treatment plants and other technologies to reduce pollution.



REFORMS IN THE AGRICULTURE SECTOR

The fourth pillar includes reforms in the agricultural sector with targets for food systems and sustainable rural areas.

Within this pillar, it is planned to:

- support the approximation of agri-food and primary production sectors with EU standards,
- Food safety,
- Strengthening sanitary controls throughout the food chain,
- Labelling of food products,
- Consumer rights, and promotion of sustainable food,
- Ecological and organic agriculture and reducing the use of chemicals.

Supporting producers and processors in the agri-food sector to facilitate the transfer to innovative and environmentally friendly technologies is also considered an area of interest.



BIODIVERSITY

The fifth pillar is that of biodiversity and includes objectives for the protection and restoration of ecosystems.

Through this pillar will be supported the countries of the region in:

- Development and implementation of an Action Plan for Biodiversity of the Western Balkans,
- Preparation and implementation of a Landscape Restoration plan,
- Development of biodiversity benefit analysis and nature-based solutions,
- Strengthening mechanisms for regional cooperation for biodiversity conservation,
- Commitments under the United Nations Convention on biodiversity,
- Exchange of knowledge between the countries of the Western Balkans and EU research centers, or even in
- Establishment of Biodiversity Information Centers in the Western Balkans.



Biodiversity

SUPPORT FOR THE GREEN AGENDA

The Economic and Financial Package in support of the implementation of the implementation of the Green Agenda for the Western Balkans approved by the European Commission captures the initial amount of 9 billion EURO for 2020, with the aim of increasing this amount to 20 billion euros for the period 2021-2027.

The European Union will support its implementation through several financial instruments such as the Instrument for Pre-Accession (IPA III), the Western Balkans Investment Framework, the European Fund for Sustainable Development Plus (EFSD +) and other EU financial instruments.

Other programs and mechanisms for the implementation of the agreement will be public administration reforms, public financial management reforms, green economy reforms, improving environmental governance, emissions trading schemes or even cooperation through regional organizations and bodies such as Regional Cooperation Program, Regional Cooperation Council, Energy Community Treaty, etc.

Undoubtedly, awareness campaigns and reforms in the education system for the environment and climate will be a very important part of the process of implementing the green agenda for the Western Balkans.

WHAT WILL BE KOSOVO'S BENEFITS FROM THIS AGREEMENT?

The Green Agenda is very welcome for the environment sector in Kosovo, given the low support that this sector has from the Kosovo budget.

The main benefits that Kosovo can expect from the Green Agenda will be in the first place investments in renewable energy sources and decarbonization of the energy system, supporting projects based on green energy but also those in energy efficiency.

The decommissioning or closure of the Kosovo A Power Plant should definitely be on the agenda of Kosovo projects in this sector, as well as the process of rehabilitation and installation of filters at the Kosovo B Power Plant.

In this context, Kosovo should seek support for the drafting and implementation of the National Energy and Climate Plan, setting clear objectives for reducing carbon emissions from the energy sector.

Multimodal transport, green, alternative and environmentally friendly choices in the field of transport and mobility are also priorities that should find support. It would be important to see concrete projects in large urban areas that offer green choices for public transport.

Investments in the waste sector with a focus on the waste separation system, and in the construction of waste recycling plants should be priority areas where Kosovo should focus.

In this context, priority should be given to projects aimed at eliminating old forms of waste management such as the rehabilitation of sanitary landfills and the elimination of illegal landfills.

Projects aimed at eliminating and reducing plastic pollution, or even those for reimbursement of packaging waste would be of particular interest. Of strategic interest will be the construction of an efficient waste management system, through which Kosovo would move from a linear economy to a circular economy, which would reduce pollution and increase economic development.

Investments in clean technologies aimed at reducing air pollution, investments in central heating systems for large urban areas, investments in the construction of wastewater treatment plants or even investments in the organic agriculture sector will undoubtedly have priority in support framework.

Kosovo will also benefit from this process through expertise in the approximation of national legislation with the Acquis communautaire, and here in addition to the harmonization of current environmental sector

legislation with EU Directives, attention should be paid to EU laws, as climate law is.

KOSOVO MAIN CHALLENGES AND BENEFITS FROM IMPLEMENTATION OF THE AGREEMENT

There are a number of challenges and problems that Kosovo is expected to face during the implementation of the Green Agenda.

1. In the first place are the political problems and the instability of the government that make Kosovo not have the proper attention for the green agenda and the introduction of its implementation in the governing priorities.
2. Diminishing the role of the Ministry of Environment, by merging it with other ministries is another issue that indirectly reduces the possibility of approaching this agenda more seriously.
3. Bureaucracy and limited institutional capacity to design plans, programs and projects and to gain support for areas of agreement are another challenge that requires attention.
4. The slow and problematic transition in all development areas, including the energy transition and the green economy transition, will undoubtedly be another obstacle to the implementation of the agreement.
5. Therefore, in order to facilitate this process and to make more effective the benefit of this agreement, Kosovo should draft a national plan for the implementation of the Green Agenda and form an intergovernmental body that would coordinate the processes related to the implementation of the agenda.

3.5 Positive and Negative Impacts of The Covid-19 Pandemic

The main problems that have been reported and continue to be reported around the world in connection with the Covid-19 Pandemic are the deaths of many people and the damage to the economy in general. The impact of the Pandemic has affected almost all development sectors. The environmental sector has not been left out of this influence either. Unlike other sectors, where the Pandemic had mainly negative impacts, in the

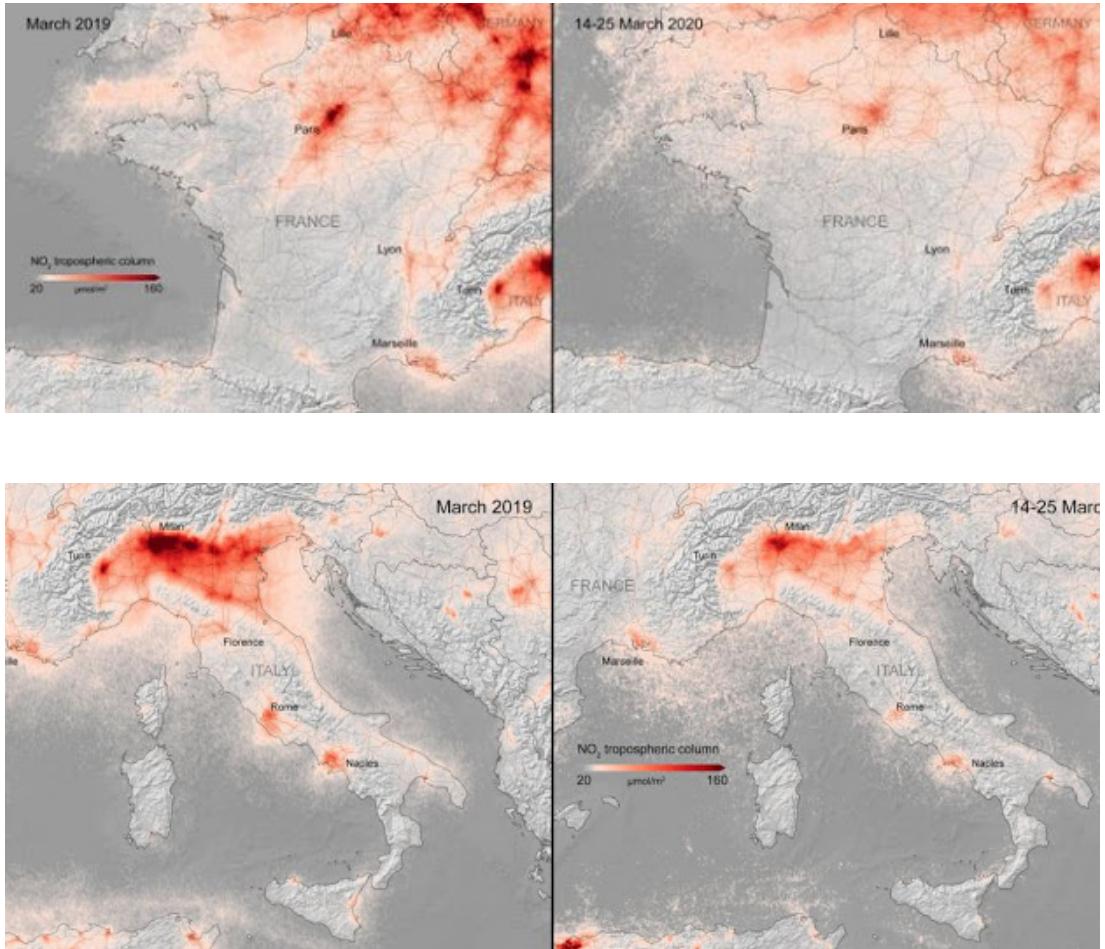
environmental sector there were more positive impacts, in addition to those that contributed to the deterioration of the environmental situation.



3.5.1 Positive Impacts

Air quality and atmosphere emissions

One of the main environmental benefits that came as a result of the pandemic was the improvement of air quality. Due to the reduction of car traffic, it was reported to improve air quality parameters in urban areas specifically for indicators related to traffic pollution such as Nitrogen Dioxide (NO₂) and PM_{2.5} Particles. Data from various environmental agencies showed that in addition to reducing the pollutants released into the atmosphere by the transport sector, including NO₂ and PM_{2.5} emissions, there was also a reduction in greenhouse gas emissions, especially CO₂. The reduction of air emissions and greenhouse gas emissions has also been influenced by the reduction of flights, the banning of sports activities, large public activities, concerts, conferences and meetings.



Improving air quality (N02) in France and Italy, March 2010 - March 2020

Slowing down ozone layer damage

The reduction of transport during the pandemic period has directly reduced the reduction of consumption of petroleum products. This reduction in oil consumption has had positive effects on the environment and in particular on reducing the emission of gases that damage the ozone layer. Therefore, it has been reported that the degradation of the ozone layer during this time has slowed down.

Decreased mortality rate from air pollution

It has been consistently said that the mortality rate because of air pollution in the world is increasing. During the pandemic period there was a decrease in mortality from air pollution, because there was a reduction in the presence of

toxic gases in the atmosphere coming from the transport sector but also because people of all ages were forced to stay at home and have avoided exposure to these pollutants. Given the fact that the majority of the population today lives in urban areas, the improvement of air quality in these areas had a very significant impact on improving public health. In some countries, the decline in mortality rates was 20% lower.

Noise reduction

The reduction of transport activities and other economic and cultural activities on the one hand, and the restriction of movement in open spaces of people on the other hand, have significantly reduced the noise level but also the exposure to this pollutant. This improvement has been observed especially in urban areas.

Fewer people on the streets, less pollution

In addition to the reduction of air pollution that was a result of the reduction of transport, the reduced number of people in the open has resulted in less pollution of other natures. It has been reported mainly for a reduction of waste on the road, in nature, in watercourses and generally in open spaces. There has been a reduction in pollution either because open waste incineration has been reduced or also because there have been fewer grill burning activities in the open.

Cleaner parks and beaches

The inability of people to move freely and carry out their activities has affected some areas such as parks, forests and beaches to be less affected by human activities. Less waste has been reported in these areas, fewer wildlife disturbance opportunities and fewer forest fires.

Visible signs of improving the environment everywhere

In the first months of the pandemic, satellites recorded images that clearly showed a drastic drop in air pollution around the world. Because of improving air quality the media in India reported that after 30 years, people from North India, could clearly see the summit of the Himalayas. In the tourist city of Venice (Venice), after a long time due to the reduction of air pollution and the reduction of transport in the water canals, the city sky was open while the water in the city canals was clear. On the beaches of Thailand that were deserted due to the pandemic, after 20 years the turtles returned to lay their eggs.



Water purification in the Canals of Venice during the Pandemic

3.5.2 Negative Impacts

In addition to the positive impacts, the pandemic period also had negative environmental impacts and were mainly related to the waste management system, discharges into the water, resource utilization or even the reduction of the budget for the environment.

Increased waste generation for some categories

During the Pandemic, there was an increase in waste generation for some categories. With special emphasis has been increased the generation of medical waste that has come as a result of increased use of masks, gloves or even other medical devices and medications that have been used to prevent the spread of COVID-19.

There has also been an increase in the amount of plastic waste and packaging. The use of disposable packaging and those of the type "take and go" (to-go) which are mainly made of plastic, the use of gloves and disposable masks have had a negative impact on the environment.

Due to the long stay at home, an increase in the amount of organic waste has also been reported, which has come as a result of home feeding, where people had more time to cook food.



Waste from anti-Covid masks on the beaches

Decreased waste recycling potential

Another negative environmental impact during the pandemic was the decline in waste recycling potential, due to the fact that many countries around the world in an attempt to adapt to the pandemic conditions have stopped implementing waste recycling programs, or even taken measures to reduce staff engaged in this sector.

Increased discharges into the water

Prolonged stay at home and hygiene conditions dictated by the pandemic situation have contributed to increased water consumption, but also to increased discharges of chemicals into the water. This has come as a result of the increasing use of soaps and other chemicals for hand washing and maintaining hygiene or even due to the increased use of disinfectants. In some lands, additional chemicals have even been used to treat the spread of COVID-19 virus through discharged water.

Reduction of budget and projects in the environment sector

Because governments of different countries had to reallocate the budget to combat the spread of COVID-19, there were budget cuts for other sectors including the budget dedicated to the environment. In the case of Kosovo, the budget for environmental capital projects has been reduced by up to

50%, while globally there has been a decrease in investment in the renewable energy sector, especially in wind and solar energy. Other indications of reduced investment in the environmental sector were donor funds that during this period had a tendency to orient themselves towards preventive measures to combat the pandemic. Problems were also reported for the completion of projects that were in the process of implementation due to the impossibility of travel of the project implementation staff.

Experiences gained from the pandemic

Taking into account the positive as well as the negative impacts that the environment has faced during the pandemic phase, we can draw some very important lessons for the future.

The loss of human lives and health problems that have arisen during the pandemic have contributed to raising awareness of the importance of a clean environment for health. People have realized that reducing pollution and protecting natural resources is closely linked to maintaining health.

It has been clearly observed that reducing human activities that are oriented towards the use of fossil-based energy sources is essential to prevent climate change and improve air quality. After a long time, for the first time in the last decade we have seen the environment "curing" the consequences of human impact.

It has been estimated by many experts that through this Pandemic, nature is sending clear signals to humanity that the destruction of the environment has reached its culmination and that it is the last time to act to stop the destruction of life on earth.



04. Montenegro

4.1 Waste Management in Montenegro

General overview

Waste management represents one of major problems when speaking about environmental protection, as well as one of key challenges for Montenegro in the process of EU accession. As a candidate for the EU membership, Montenegro is obligated to establish a functional system of waste management that will be harmonized with the EU *Acquis*.

The EU environmental requirements are extensive and significant investments in infrastructure are needed in order to achieve compliance. In the process of accession, Montenegro has the obligation to transpose Directives and Regulations of the EU into its legislation. Adequate transposition and implementation will ensure sustainable waste management.

4.1.1 Waste management legislative framework

Montenegro has not finished preparation of changes and amendments to the Law on Waste Management yet, that should continue the work for the transposition of European legislation into our legislation. Adoption of that Law was formerly envisaged for the Quarter IV of 2018, but the new deadline for its adoption is now Quarter IV of 2020.

Municipal waste management is within the competences of local self-government units and it is carried out in a such manner that the waste is disposed in sanitary landfills, temporarily stored on sites for temporary waste storage, disposed in unregulated city dumps, and only a minor part of it is selected for re-use and recycling.

Key institutions in this domain are: the Ministry of Sustainable Development and Tourism, the Agency for Nature and Environment Protection, the Ministry of Culture and Rural Development, the Ministry of Health, the Ministry of Economy, Administration for Inspection Affairs, local self-government units, MONSTAT.

4.1.2 Waste management problems

The process of selective waste disposal in Montenegro is still at an early stage. On the basis of an analysis of local plans for municipal waste and non-hazardous construction waste management, as well as presented annual reports on the implementation of local waste management plans for 20 municipalities in Montenegro, only six municipalities indicated a share of selected fraction for recycling (Podgorica, Kotor, Herceg Novi, Tivat, Budva and Bar). Just a negligible share is indicated in the planning documents of Mojkovac and Kolašin municipalities.

Disposal is the most frequently applied method when speaking about waste and its removal. According to the Law on Waste Management, removal of waste is carried out in locations designated for that purpose by spatial planning documents. Montenegro does not satisfy this condition in its entirety as there are only two sanitary landfills in Montenegro, Livade and Možura, that comply with European standards.

According to the results of research conducted by Green Home, Montenegro has 406³ unregulated dump sites that also include temporary disposal sites still used for waste disposal by certain municipalities, together with larger disposal sites that were in use and are now planned for rehabilitation.

One of the crucial problems in this area is mixing of hazardous waste components with nonhazardous waste that is prohibited in accordance with the Rulebook on Waste Management, but it has not yet fully come to life in Montenegro.

There is also the problem of illegal disposal and burning of tires. According to the Law,⁴ burning of waste in open or closed areas and in plants that are not in possession of a relevant permit, is prohibited. Nevertheless, burning of tires occurs frequently in practice. Emissions produced from burning this kind of waste contain many hazardous substances and poisonous gases with detrimental impact on environment and human health because of their dangerous and cancer-causing properties.

³ Analysis – Circular economy in the domain of waste management in Montenegro

⁴ Law on Waste Management (Official Gazette of Montenegro, No. 064/11 of 29 December 2011, 039/16 of 29 June .2016)

Montenegro has not yet adequately defined used tires as waste that needs to be managed in an economically sustainable manner. The Law on Waste Management sets forth that manufacturers and importers of tires are obligated to be included in or to establish an organized system for the acquisition, collection and treatment of waste tires, as well as to bear the costs incurred for the establishment and operation of such a system. The Law introduces the prohibition of mixing waste tires with other waste components. Due to the fact that there are no adequate areas or dumpsites for waste tires in Montenegro, they are most frequently disposed together with solid municipal waste.

4.1.3 Waste during the COVID-19 pandemic

During the COVID-19 pandemic, the use of face masks has been highly promoted and employed as a control measure against the spread of the coronavirus disease which consequently has led to a considerable increase in the production of disposable face masks. According to the UNCTAD estimates, the total sale of face masks will amount to about \$166 billion, and exceed the sale in 2019 by more than \$800 million. It is expected that 75% of disposed face masks, as well as other waste as a result of the pandemic, will end in landfills or float in the seas.

The increased use of protective face masks and gloves during the COVID-19 pandemic has resulted in highly enlarged quantities of waste that, if contaminated, represents a potential transmitter of the virus.

The waste generated during the COVID-19 pandemic includes all disposable products used by persons who are positive or potentially positive on this virus.

In Montenegro, activities on the removal and destruction of medical waste, including the waste produced during the COVID-19 pandemic, are in charge of the complete healthcare staff. The first step is segregation of the medical waste, which is separated from nonhazardous municipal waste into separate bags or containers. The waste is then transported to the incineration plant where it is destroyed to the level of nonhazardous municipal waste. The segregation plant is located within the compound of the Clinical Center.

According to the available data from the Ministry of Health, the Clinical Center is the largest producer of medical waste in the country. The Center generates over 23 tons of medical waste annually.

Presently, there are no specific national protocols for the COVID waste from households. However, based on the data from April, employees of the City Company Čistoća Podgorica, equipped with adequate protection equipment and in accordance with prescribed procedures take over waste in front of residential units of persons with confirmed coronavirus disease.⁵ Disinfection of the waste properly packed in several bags is conducted by the competent bodies of the Public Health Institute. The waste is then transported by means of special vehicles to the company authorized for medical waste treatment.

Special procedures have also been introduced in large retail chains. At the end of the working hours, employees in supermarkets dispose of protection face masks and gloves in separate hermetically closed bags specially intended for that purpose.

4.1.4 Attitudes

The biggest challenge facing the waste management is the establishment of adequate infrastructure that would enable sustainable waste management in Montenegro. It is in this manner that a more efficient collection and recycling, as well as rehabilitation of illegal disposal sites would be achieved.

It is necessary to establish an efficient and sustainable inspection system and policies that will be strictly implemented.

Waste management options in compliance with EU standards should be implemented taking into consideration the hierarchical approach: to reduce the amount of waste generated, to maximize recycling and re-use, to limit incineration to non-recyclable materials, to phase out landfilling to non-recyclable and non-recoverable waste, to ensure full implementation of the waste policy targets.

⁵ <http://www.cin-cg.me/covid-19-i-odlaganje-infektivnog-otpada-i-zastitne-opreme-neophodan-poseban-oprez-pazljivo-sa-rukavicama-i-maskama/>

Future projects should be developed and efficiently implemented. Interests of local communities should be taken into consideration when implementing activities in this area. The environmental impact assessment of waste projects should not be conducted just for the sake of form, but in such a manner as to demonstrate the impact on all segments of environment.

Resolution of the problem of illegal waste disposal and use of temporary disposal sites in all municipalities is a matter of urgency. It is necessary to establish an adequate infrastructure for separate waste collection and recycling; to carry out activities on the prevention of waste generation due to the COVID-19 pandemic; to enforce an efficient penalty policy, particularly when it comes to the disposal of face masks and protective gloves in a negligent manner; to promote alternatives to disposable face masks that are more cost-effective and have less adverse impact on environment.

4.2 NGOs perspective on the issue of planning and construction of small HPPs in Montenegro

An intensive development of small HPPs in Montenegro started in 2006 with the adoption of the Strategy for the Development of Small HPPs (the document that should define watercourses to be used for the construction of small HPPs, on the basis of hydrological and ecological expertise), but that failed to precisely determine locations for construction.

Spatial planning documents for municipalities at the time of signing first concession agreements in 2008, did not envisage any such construction which was actually the basic precondition for a building permit to be issued.

Therefore, the Government of Montenegro in the following years resorted to the solution of issuing consents on urban-planning and technical requirements for the construction of small HPPs on the basis of the Spatial Plan of Montenegro, enabling thus concessionaires to commence the implementation of their projects.

4.2.1 Legal abuses and violations of law

In the period of intensive development of small HPPs 2011-2016, when the largest number of concessions was granted, there existed no reference documents in accordance with the Law on Waters, as a basis for planning and concession granting.

From 2008 - 2015 the Plan on awarding concessions for the exploitation of watercourses for the construction of small hydro power plants did not exist, although it was obligatory in accordance with the Law on Concessions. This represents a violation of the Law on Concessions.

The first Plan on awarding concessions for the exploitation of water courses for the construction of small HPPs was adopted in 2016, but the Strategic Environmental Impact Assessment for the Plan was not conducted. This is a violation of the Law on Strategic Environmental Impact Assessment.

4.2.2 Absence of financial equilibrium: Privileges to investors to the detriment of public interest

For small HPP projects electricity producers are awarded the status of privileged producers whereby electricity generated by small HPPs is bought at privileged prices valid at the time of obtaining the status of interim privileged producers for a period of 12 years.⁶

Concessionaires for small HPPs are obligated to pay a concession fee in the amount of 5-6% of annual electricity generation, but this is negligible when compared to the amount of incentives they receive. It has to be outlined that financial equilibrium between the concedent i.e., the Government of Montenegro and a concessionaire i.e. private entity represents the basis of concession arrangements. In all the existing concession arrangements, the principle of public interest as well as financial equilibrium of two contractual parties are grossly jeopardized to the detriment of the Government i.e., of all citizens, and in favor of private entities. What speaks in support of the above is that – by the end of 2019, EUR 13.4 million was paid for subsidies in favor of private entities while on the other side, private entities paid to the Tax

⁶ Article 107, Energy Law

Administration only EUR 1.6 million of concession fees by mid-last year. In fact, the overall amount was paid by the citizens of Montenegro through their electricity bills.

The share of electricity generated by small HPPs was only 2.38% in 2019, while losses in the distribution system for the same period were 13.10%⁷.

4.2.3 Unsatisfactory quality of environmental impact assessments

Cumulative impacts of these projects on environment are not adequately assessed. Construction of small HPPs causes environmental changes or disturbances. This occurs as a consequence of activities of negligent concessionaires, poor quality of environmental impact studies and inadequate enforcement of measures for the prevention and elimination of negative impacts, as well as unsatisfactory supervision by relevant inspection bodies. Political commitment to the environmental protection is huge on paper, but the situation in reality is substantially different.

Contents of studies on environmental impact assessment are of poor quality and assessment procedures are conducted mainly to satisfy the form, and not to fully perceive current problems and determine solutions that guarantee best outcomes for environment. The largest deficiency of project assessments is that the initial situation is shown in general terms, with presentation of irrelevant data that are not focused on micro locations endangered by projects. When speaking about already constructed small HPPs, the Agency for Environmental Protection does not conduct monitoring of ecologically acceptable water flow, the analysis of which is given in environmental impact studies, though it is obligated to do so in accordance with the law.

4.2.4 Manipulation of public opinion

The Ministry of Economy, at the Government session held on 23 May 2019, informed the public of its intention not to issue new concessions for small HPPs. On that occasion, the Government also announced revision of all

⁷ Report on the situation in the energy sector of Montenegro 2019

existing contracts on concessions awarded so far. However, in July 2019 the Government adopted Reports on the procedure of awarding concessions on the basis of energy permits for the construction of a small HPP - Štitska on Štitska river watercourse, as well as for the construction of a small HPP- Umska on Umska creek watercourse in Andrijevica.⁸

In September 2020, the Government issued another two concessions on the basis of energy permits for the construction of a small HPP - Skrbuša on Skrbuša river watercourse and a small HPP - Bare Kranjske on Vranještica river watercourse in Kolašin.⁹ All these are former contracts that, instead of being terminated, are extended without any valid grounds and in some cases signed with negligent concessionaires who formerly abandoned some projects and devastated rivers.

In October 2019, the Prime Minister announced the commencement of negotiations for the termination by mutual consent of contracts on the construction of small HPPs on Bistrica river in Bijelo Polje, on three rivers in Plav – Murinska, Đurička and Komarnička rivers, as well as on Bukovica river in Šavnik and Tepačka river in Andrijevica. However, the public has not yet been informed on the outcome of these negotiations.

Unplanned and unregulated construction of small HPPs in Montenegro lead to harmful impact on local population – they lost water for their essential needs (irrigation, drinking, cattle watering, fishing, bathing), and were a serious threat to permanent devastation of nature. Citizens of the northern Montenegrin region organized in the last several years many protests to express their discontent with the construction of small HPPs.

4.2.5 Attitudes

Even though small HPPs are considered to be renewable energy sources, the process for their planning and delivery in Montenegro is in contravention of the principles of nature protection, transparency, contribution to the

⁸ 129. Session of the Parliament of Montenegro - 11 July 2019

⁹ 133. Session of the Parliament of Montenegro – 5 September 2019

development of local communities, integral exploitation of watercourses and sustainable development.

The majority of already awarded concessions for small HPPs in Montenegro is granted without any valid grounds as regards waters or biology, along with the nonexistence of relevant planning acts, strategic guidelines and precise data on the potentials and impacts of these projects on environment.

4.2.6 Petition awaiting for almost 2 years to be taken into consideration

In May 2019, NGO Green Home together with representatives of local communities that fight against the construction of small HPPs delivered to the Parliament of Montenegro a petition supported by more than 6,400 citizens, asking for the introduction of a permanent moratorium on the construction of small HPPs in Montenegro. More than a year after the delivery of the petition, this issue has not yet been discussed at the Parliament's plenum. It was addressed just once during the Prime Minister's Questions which cannot be accepted as an answer to the citizens' appeals.

In December 2019, NGO Green Home filed a criminal complaint to the Supreme State Prosecutor's Office against officials of the Municipality of Bijelo Polje, the Secretariat for Spatial Planning of the Municipality of Bijelo Polje, the Secretariat for Rural and Sustainable Development of the Municipality of Bijelo Polje due to the planned construction of Lještanica HPP. However, the complaint has not been acted upon yet.

On the basis of all the above presented, we are of the opinion that it is necessary to terminate all concession contracts and introduce a moratorium on the construction of small HPPs on all watercourses in Montenegro.

Taking into account the above mentioned, as well as the fact that in 2017 Montenegro adopted the Water Management Strategy, the Danube River Basin Management Plan, the Adriatic River Basin Management Plan, the ratified Paris Agreement, that revision of NDC is underway, and given also the fact that we are faced with changes of plans related to the second block of Pljevlja TPP, from our point of view it is necessary to harmonize all relevant documents from this domain and enhance the dynamics for the adoption of the National Energy and Climate Change Strategy.

In spite of the fact that in the preceding period the Draft Law on Changes and Amendments to the Energy Law was proposed and public debate held, the largest part of comments made by NGO sector and citizens was refused and was not integrated in the Law.

The Energy Law should precisely define decisions regarding the model for fostering power production from renewable sources i.e. small HPPs and wind power plants, in order to enable implementation of the market premium model, what means that like in EU countries, instead of a guaranteed price for renewable energy source (RES), invitation to tender would be announced and concessionaires selected according to the principle "who offers less". The implementation of this model would considerably reduce incentives for new power plants.

Furthermore, having in mind that already constructed small HPPs failed to justify the status of projects of public interest, it is necessary to delete from the relevant provisions of the Energy Law all allegations that electricity generation from small HPPs is "in the public interest".

Montenegro, as a member of the Energy Community, took on the obligation to join the energy transition process and participate in the single energy market where green energy sources are dominant. In that respect, Montenegro has the obligation to reduce its dependence on coal and satisfy all its energy needs from green sources.

Requests to the Government of Montenegro:

- To issue a Decree by which small HPPs will be declared projects that are not in the public interest;
- To introduce a moratorium on the construction of small HPPs;
- To conduct the revision of existing contracts for the construction of small HPPs (based on concessions and energy permits), as well as to terminate contracts with negligent investors and in all other cases when it can be proved that the subject matter of small HPPs are not in the public interest;

- To act within its competences and take steps towards abolition of subsidies to small HPPs, as well as of the status of privileged producers from these sources;
- To take needed actions and from bank guarantees (at the investors' cost) repair all damages to the rivers and nature incurred by investors on water courses;

Requests to the Parliament of Montenegro:

- To put up the civil Petition for public debate and urgently issue the act on the protection of all rivers in Montenegro from the construction of small HPPs (permanent cessation of construction that is underway or planned);
- To exclude small HPPs as projects in public interest by changes and amendments to the Energy Law;
- To act within its competences and take part in the procedure for the abolition of subsidies for small HPPs and for the status of privileged energy producers and investors of small HPPs.

05. North Macedonia

5.1 Legal regulation on the waste management in the Republic of North Macedonia

5.1.1 General policy on waste management in the Republic of Macedonia

The basic strategic principles are clearly defined in the NWMS, NWMP, RWMPs and National Programmes and the relevant Laws described below. Specific information regarding the management of different waste streams is provided in further sections of the plan 'A Waste Management Strategy', with the objective to specifically define the long-term needs in the area of waste management, as well as the necessary legislative measures for enforcement.

- The National Waste Management Strategy 2008-2020 (NWMS) provides the basis for the National and Regional Waste Management Plans and defines the fundamental direction for waste management.
- A National Waste Management Plan, in which the current conditions are assessed and basic recommendations, activities as well as resources and financial mechanisms in the waste management process for the following 6-year period are provided;
- A Local Plan and waste management programs, which are prepared for a period of three years and are adopted by MoEPP, on a proposal by the local self-governments, legal entities and individuals involved in the implementation phases of waste management.
- Waste Management Plans of the local self-government.

Waste Management plans and programmes of the local self-government are almost in place across all municipalities. Programmes are also in place for large public and private waste producers.

As shown in Figure 1 according to the Law on waste management there are several planning documents to be adopted on national, regional and local level.



Waste Management Planning Structures in Republic of North Macedonia

5.1.2 Legal responsibilities of the municipalities regarding waste management

According to the Law on Waste Management, the municipalities oversee important activities in the field of waste management:

- protect the environment, life and health of people;
- achieve the goals and directions stipulated in the National environmental action plan;
- apply the general principles and directions for waste management;
- establish an integrated national network of plants and treatment plants accomplishing the obligations related to waste management, which the Republic of Macedonia has undertaken at international level;
- organize collection, transport and disposal of communal waste;
- supervise transport and disposal of industrial non-hazardous waste;
- make decisions on the sites of the waste management facilities;
- adopt regulations on waste management at local level;
- finance and supervise closure of 'wild' dumpsites and closure of the waste management facilities.

- the municipalities are also responsible for the establishment of landfills for non-hazardous and inert waste;
- however, issuing permits, inspection and monitoring related to environmental protection issues, with the exemption of the landfills for inert waste lay within the competences of MoEPP.

For the purpose of the implementation of the Waste Management Plan of the Republic of Macedonia, the Councils of the Municipalities and of the City of Skopje adopt a Waste Management Plan for the respective Municipality, i.e. the City of Skopje, upon a proposal of the Mayor of the Municipality and the City of Skopje.

The waste management plan for the municipalities refers to a period of no less than three and no more than six years. The plan particularly contains the data on the National Plan of the Republic of Macedonia. The mayor of the municipalities and the City of Skopje are responsible for the implementation of the local Plan.

The mayor of the municipalities and the City of Skopje submit the waste management plan for approval to the body of the public administration in charge of environmental affairs (MoEPP).

The waste management plan of the municipality, as aforementioned, refers to a period of no less than three and no more than six years, and should contain in particular:

- 1) a description and assessment of the current situation in relation to waste management;
- 2) projections of the future conditions related to the waste management;
- 3) incentives for the accomplishment of the activities for avoidance and reduction of waste generation, as well as reuse, recycling and recovery of waste as a source of energy;
- 4) ways of disposal of the waste that cannot be avoided or processed;
- 5) determining the type and quantity of waste according to which the obligations by legal entities and individuals is determined so that they draft waste management programs;
- 6) implementation of the waste management monitoring system;

- 7) specific measures and activities for the reduction of biodegradable substances in the waste intended to be disposed of, and the scheduling and the volume of their implementation;
- 8) determining the needs of the Republic of Macedonia for the construction of facilities and plants for waste processing and disposal;
- 9) sites and plants for waste disposal;
- 10) data on an integrated national network for waste disposal and waste processing plants;
- 11) technical and other conditions that need to be met in the area of waste management;
- 12) measures for the remediation of the dumpsites and polluted areas;
- 13) activities undertaken by the local self-government units, regarding waste management;
- 14) measures for the education and raising public awareness on waste management;
- 15) estimation of the operational costs for waste processing and disposal;
- 16) financial instruments for the implementation of the waste management plan.

The responsibilities of the municipalities and the City of Skopje are described in detail in the Law on Waste Management LoWM. However, for the municipalities to accomplish their obligations more easily, this paper points them out once more:

Namely, the municipality council and the council of the City of Skopje, in compliance with the National waste management plan of the Republic of Macedonia, shall:

- take care of public hygiene and of abandoned waste;
- issue acts in order to regulate the separation, collection and transportation of communal and other non-hazardous waste;
- cooperate with the other municipalities and the City of Skopje regarding the communal and other non-hazardous waste management;
- implement projects and undertake investments for the improvement of the general state of waste management;

- act in accordance with the general rules on communal and other waste treatment;
- two or more municipalities can prepare a joint program for the management of communal and inert waste.

The mayors of the municipalities and of the City of Skopje shall submit reports on the implementation of their waste management programmes to the body of the public administration in charge of environmental affairs on an annual basis, upon prior consent obtained by the councils of the municipalities and the Council of the City of Skopje. These reports on the programme for the previous year shall be submitted by 28th February of the ongoing year.

To support integrated regional waste management, the Government amended the LoWM in 2012 to establish Inter-Municipal Waste Management Boards (IMWMB). Board members must be municipal Mayors or be appointed by Mayors and have the following responsibilities:

1. Approve the draft Regional Waste Management Plan;
2. Organise implementation of the Regional Waste Management Plan;
3. Organise procurement of contractors for infrastructure development and operation;
4. Approve price proposals for price for waste treatment (per tonne);
5. Approve the draft investment programme;
6. Exercise control over the activities of the chosen operators;
7. Adopt and amend the Rule Book of the IMWMB;
8. Elect the Chairperson of the IMWMB.

Municipalities are responsible for organising collection, transport and disposal of municipal waste, supervising transport and disposal of industrial non-hazardous waste, identifying suitable locations for waste management facilities, issuing local regulations, financing and supervising dump/landfill closures.

Public Communal Enterprises (PCEs) are the main waste service providers, conducting waste collection and landfilling of waste. Some municipalities have established Public-Private Partnerships (PPP) with local companies for the collection of communal waste and recyclables.

5.1.3 State of play with the municipalities

Map of the municipalities of North Macedonia, with the city of Skopje is presented in figure 2. In February 2013, North Macedonia was reorganised into 80 municipalities, 10 of the municipalities constitute the City of Skopje, a distinct unit of local self-government and the country's capital. North Macedonia is subdivided into eight statistical regions, based on the prior municipal/county framework.

The regional waste management approach is envisaged in the NWMP 2009-2015. But, to eliminate the possibility that a limited number of municipalities might jeopardise the establishment and operation of an integrated regional waste management system, the Government adopted Amendments of the Law on waste management (off. Gazette No. 123/12) where the municipalities within the region must establish an Inter-Municipal Waste Management Board (IMWMB). According to the Law on Waste Management, chapter II-a, members of the IMWMB must be Mayors of the municipalities or other persons designated by the Mayors. IMWMB shall have the following competences:

1. Approve the draft Regional Waste Management Plan;
2. Organize and monitor the implementation of the Regional Waste management Plan;
3. Organise procurement and selection of suppliers and constructors for the elements of the regional system;
4. Organise public procurement and selection of operator/s of the regional system;
5. Approve draft proposals for unit price for the treatment of a tonne waste in the regional system;

6. Approve the draft investment programme for the development of the regional system;
7. Exercise control for the operation of the regional system and the activities of the chosen operators;
8. Adopt and amend the Book of Rules of the IMWMB;
9. Elect the Chairperson of the IMWMB.

Unfortunately, only 27 municipalities have developed their waste management plans. On the other side all eight regions have approved RWMP (all of them prepared with the grant budget from EU funds and one with the help from the Swiss Government).

The main issue for the municipalities with regard to the development of MWMP are the human and budgetary capacities.

Recommendations for the municipalities: how to develop a good WMP

The work for the development of the plan is recommended to be supervised by this Inter-municipal waste management board. They must assure that the objectives, priorities and the human and financial resources are in place and clear for the municipality under the respective region in order to work with the local waste plan.

The actual work for the development of the local waste plan could be done by a working group consisting of experts responsible for waste management, environment and planning in the municipality. The working group should be led by a project leader in charge of developing and writing the plan and reporting to the steering committee.

The steering committee should decide on a working plan on a proposal from the working group. The involvement of the various stakeholders and the wider public in the planning process should aim at ensuring acceptance of the waste policy in general and contribution to the attainment of its objectives. As part of the general considerations when drafting a waste management plan, it should be made clear who will be the participants in the different stages of the planning process and how and when the administration/policymakers will bring them in.

The working group could be supported by a reference group, both an internal municipal reference group including other experts that are not in the working group and an external reference group. Participants to the external group could be private entrepreneurs, local industry, NGOs etc.

An initial workshop may be held to create a mutual understanding of the waste-related issues and the necessity for action. The programme of the workshop may include a presentation of the current situation such as waste quantities generated, environmental impacts from waste treatment and treatment capacity. It would also be an opportunity to collect ideas for the future development of the waste sector, priority waste streams and suggestions for objectives.

Workshops may also be held later in the process when the plan starts taking shape and suggestions for future objectives and targets are in place. Usually the measures regarding the implementation of the plan are of interest to stakeholders as well.

All in all, the main purposes of such workshops are to receive ideas from stakeholders and to exchange information on aspects of waste planning.

Finally, another option is to establish either working groups or arrange workshops dealing with specific waste streams. This may be relevant for priority waste streams, "new" waste streams that have not been collected and managed before, or if radical changes are needed for waste streams.

When a draft version of the plan is ready, a consultation may be carried out as a written procedure where the most relevant parties receive the draft plan and provide their feedback within a fixed deadline.

The public consultation on a draft waste management plan may be an integral part of awareness-raising activities. However, public awareness is much more than just commenting on draft plans, and it should be considered important for the acceptance of waste management issues by the general public.

The minimum involvement requirement is to submit the draft waste management plan to a public consultation. The draft plan may also be made

publicly accessible through the Internet, from town halls and public libraries. This may include an invitation for all citizens to comment on the draft plan.

5.1.4 Waste management programmes

As it is mentioned in the introduction, the Law on waste management defines precisely the guidelines for WM in the municipalities. Among other things, the waste management programs are a part of the municipality responsibilities in the preparation of WMP, i.e. the waste management programmes of the legal entities and individuals. It is important to keep in mind here that the implementation of the WMP is carried out through the Waste management programmes.

Conclusions and recommendations

Waste collection and treatment is a truly environmental issue. The operations are one way to solve an environmental problem, not to create or replace the problem with new ones. In this perspective, staff within local, regional and national environmental supervision is a stakeholder.

As in all other countries where more advanced waste services are to be established, sound finances are crucial. Without financial resources, the system is restricted. Good knowledge of costs and revenues, alternatives for economic incentives, and strict processes for charging and levy are fundamental in economic perspectives. Although waste management is a process that deals with all the waste that the local community is responsible for it must also consider other privatised wastes - as for example packaging waste, which is under producers' responsibility. Changes in one part of the system will have consequences for the others. Lack of infrastructure for the collection of packaging waste means that the enterprises must have them collected by communal services. A good infrastructure gives the opportunity to set goals for sorting out this waste from the mainstream, and to communicate the goals to the public as environmentally important measures - as they are.

The best way to achieve this is to put emphasis on what hazardous waste means (responsibility of the state, but also of the municipality to sort it out from its communal waste) and the main fractions of waste with different

qualities and characteristics. It is crucial to be aware of the mix and composition of wastes, and different opportunities for each sub-stream in the mixed waste.

In this sense, if a WMP of a town in a given region in the country is good and it was approved by the responsible authority, it does not directly mean that this plan is appropriate for another town in the same or in the neighbouring region, which is, for example a tourist resort, has no industry and has a considerably lower number of inhabitants, etc.

Different parts of the society generate different typical wastes. Still, there are many synergies that can be achieved if common planning for all parts is considered. One example: If most of the collection sites are proper for collection with compacting back loaders, the same truck perhaps should also be used for other collections sites. The same goes for collection bins - standardised bins for most collection sites will save money.

WMP is not just a plan for waste management. Municipalities must try to get ownership to the plan involving all the concerned parties. Primarily, these are customers and users of the service. Secondly, city planners should be involved to acknowledge the need for a proper waste management. And finally, the public needs to be involved in the planning phase. Participation is a keyword for successful planning.

5.2 The progress of transposition of the EU *acquis* and standards into the national legislation in the area of nature protection in the Republic of North Macedonia

Introduction

EU environment policy aims to promote sustainable development and protect the environment for present and future generations. It is based on preventive actions, the polluter-pays principle, fighting environmental damage at its source, shared responsibility and the integration of environmental protection into other EU policies. The *acquis* comprises over 200 major legal acts covering horizontal legislation, water and air quality,

waste management, nature protection, industrial pollution control and risk management, chemicals and genetically modified organisms (GMOs), noise and forestry. Compliance with the *acquis* requires significant investment. A strong and well-equipped administration at national and local level is imperative for the application and enforcement of the environment *acquis*.

The candidate countries are facing the very large challenge of transposing EU environmental directives into their national legislation, implementing and enforcing them. The environmental *acquis* comprises around 300 Directives and Regulations, including daughter directives and amendments, and requires an investment across sectors. There are also considerable needs but the resources, both financial and administrative, are limited.¹⁰

The benefits arising from the implementation of EU directives on nature conservation are mainly related to the setting-up of the Natura 2000 Network of special conservation areas in the candidate countries. Biodiversity and ecosystems will also benefit from other directives of the EU environmental legislation, for example through better air and water quality.

The EU has been committed to the protection of nature since the adoption of the Birds Directive in April 1979. It provides comprehensive protection to all wild bird species naturally occurring in the Union.

The Habitats Directive was adopted in 1992 to help maintain biodiversity. It protects over 1000 animals and plant species and over 200 types of habitat. It also established the EU-wide Natura 2000 network of protected areas.

More recently, new legislation has been developed. In 1999, the EU reinforced the role of zoos in the conservation of biodiversity and, in the wake of the EU Biodiversity Strategy to 2020, committed to protect native biodiversity and ecosystem services against invasive alien species. We also have legislation regulating certain aspects of wildlife trade.

5.2.1 European legislation on nature protection in focus

¹⁰ The Benefits of Compliance with the Environmental Acquis for the Candidate Countries, https://ec.europa.eu/environment/archives/enlarg/pdf/benefit_short.pdf

- **Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds**

Europe is home to more than 500 wild bird species. But at least 32% of the EU's bird species are currently not in a good conservation status. The Birds Directive aims to protect all of the 500 wild bird species naturally occurring in the European Union. Often migratory, wild bird species can only be protected by cooperating across borders. Urban sprawl and transport networks have fragmented and reduced their habitats, intensive agriculture, forestry, fisheries and the use of pesticides have diminished their food supplies, and hunting needed to be regulated in order not to damage populations. Concerned with their decline, Member States unanimously adopted the Directive 79/409/EEC in April 1979. It is the oldest piece of EU legislation on the environment and one of its cornerstones. Amended in 2009, it became the Directive 2009/147/EC.

Objectives of the Birds Directive

- Protect all species of naturally occurring wild birds in the EU.
- Overall objective: maintain their populations at a level which corresponds to their ecological, scientific and cultural requirements, or adapt the population of these species to that level.

Selection and designation of special protection areas (SPA) under the Birds Directive

Member States are responsible for selecting and designating special protection areas (SPAs) for Annex I birds and migratory species. The process is as follows:

- Identification and delimitation of SPAs entirely based on ornithological criteria (such as '1% of the population of listed vulnerable species' or 'wetlands of international importance for migratory waterfowl').
- Margin of discretion - but ensure that all the 'most suitable territories', both in number and surface area, are designated.
- On the basis of information provided by the Member States the Commission determines if the designated sites are sufficient to form a

coherent network for the protection of vulnerable and migratory species.

Hunting under the Birds Directive

Species are listed for habitat protection (Annex I) and hunting (Annex II Parts A and B). Under the Directive, no hunting is allowed during the period of reproduction and return of species to the rearing grounds. Derogations are possible under certain conditions, such as when fixing hunting seasons, in which case Member States must assure complete protection and avoid confusion and disturbance.

Important aspects for hunting regulation

- Opening and closing dates of hunting seasons
 - No hunting during the reproduction period
 - No hunting during the return to breeding grounds - migratory species
 - Prohibited methods or use of non-selective methods, e.g. use of lime and nets
 - Night hunting, high risk of confusion, e.g. duck hunting
 - Killing protected birds - non-hunting species.
- **Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora**

The Habitats Directive ensures the conservation of a wide range of rare, threatened or endemic animal and plant species. Some 200 rare and characteristic habitat types are also targeted for conservation in their own right.

Adopted in 1992, the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas, safeguarded against potentially damaging developments.

Objectives of the Habitat Directive:

- Contribute towards protecting biodiversity through conservation of endangered natural habitats and species in the EU.
- Ensure that these species and habitat types are maintained at, or restored to a 'favourable conservation status'.
- Focus on 1000+ threatened plants & animals & c. 230 habitats.

Selection and designation of special areas of conservation (SAC) under the Habitats Directive

Based on scientific data, Member States propose a draft list of sites of Community importance (pSCI). Future management challenges should not be a determining element in the definition of these areas.

In the process, the Commission, in a transparent process, together with MS and other stakeholders evaluates the sufficiency of proposals in 'seminars' within the framework of each biogeographical region, ensuring coherent approach throughout the EU. The list of proposed SCIs is adopted by the Commission which gives a formal legal effect to the protective safeguards defined in Article 6(2)(3) and (4) of the Habitats Directive.

Finally, Member States designate a special area of conservation (SAC) within 6 years after its SCI designation establishing the necessary conservation measures in line with Article 6(1) of the Directive.

Assessment at the national level

Member States make comprehensive assessments of each of Annex I habitat types and Annex II species present in their territory on the basis of standard selection criteria specified in Annex III.1 of the Directive:

- representativeness and ecological quality of each habitat type
- area of the site covered by the habitat type for every site
- size and density as well degree of isolation of each species on site in relation to its natural range
- quality of the site for the species concerned
- overall global assessment of the importance of their sites for each species and habitat types

Assessment of national lists of pSCIs at Community level

Assessment is performed according to the following criteria (Annex III.2 of Habitats Directive): rarity, geographic distribution and overall vulnerability of the species and habitat types concerned. Biogeographical seminars are convened by the Commission, with scientific support by the European Environment Agency (ETC/BD), and the participation of experts from Member States, relevant stakeholders, environmental NGOs. The purpose is to establish if sufficient high-quality sites have been proposed by each Member State to ensure the favourable conservation status of each habitat type and species throughout their range in the EU.

On basis of proposed national lists, the Commission, in agreement with Member States, adopts lists of sites of Community importance (SCI).

Designation of SCIs as SACs

Designation by the Member States as soon as possible and within six years from adoption of Community lists of SCIs. Member States also need to establish conservation priorities and determine management/restoration measures for the sites to ensure their favourable conservation status.

Natura 2000 sites

Natura 2000 sites are established for habitat types listed in Annex I and species listed in Annex II of the Habitats Directive, and birds listed in Annex I (+ migratory bird species) of the Birds Directive, Natura 2000 sites need to be designated and managed to ensure that these features can be maintained or, where appropriate, restored at a favourable conservation status. For species listed in Annex IV of the Habitats Directive, a strict protection regime must be applied across their entire natural range in the EU (both within and outside Natura 2000 sites).

Key protection principles of Natura 2000 include:

- Conserve species & habitats across the entire natural range in EU, irrespective of political boundaries
- Select sites using the same scientific criteria
- Offer strong legal protection but with high flexibility and subsidiarity provisions

- Work in collaboration with land owners & users
- Support sustainable development: a good tool to avoid unnecessary damage to our valuable natural heritage
- Natura 2000 is as much a network for nature as it is a network for and of people!
- Integration and cooperation with other sectors and funds is needed
- Cooperation between different administrations and stakeholders is important

„Appropriate assessment“ under Article 6(3)(4)

Prohibition of new activities or developments in Natura 2000 areas are not ‘a priori’, which means that a ‘case by case’ assessment should be applied.

Article 6(3) states that any plan or project likely to have a significant effect on the site (whether located within the site or not), either individually or in combination with other plans or projects, must be subject to an **Appropriate Assessment of its implications** for the site in view of the site’s conservation objectives.

The competent authorities shall agree to the plan or project if the integrity of the site is guaranteed,

Article 6(4) states that in case of negative conclusion and absence of alternatives, the plan or project can still be authorised if:

- imperative reasons of overriding public interest are evoked, compensation measures are established, opinion of the Commission (if needed) is received.

5.2.2 National legislation on nature protection

General context

The basic Law regulating nature protection through conservation of biological and landscape diversity and protection of natural heritage in and outside protected areas, as well as protection of natural rarities is the Law on Nature Protection (Official Gazette of RN Macedonia no. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 и 59/12, 13/13, 163/13 and 41/14).

In 2013, the Assembly of the Republic of North Macedonia adopted the Law amending the Law on Nature Protection (Official Gazette of RN Macedonia no.13/13), by which further transposition was made of the provisions of the Directive on Wild Birds Conservation (2009/147/EC) and Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC).

The following main elements are covered in the Law on Nature protection:

- 1) general provisions, general restrictions or prohibitions for the purpose of nature protection;
- 2) protection of nature, general measures, nature impact assessment, protection of species, protection of habitats and ecosystems, protected areas, protection of landscape, minerals and fossils;
- 3) organisation of the protection of nature;
- 4) record-keeping in the area of nature protection;
- 5) monitoring;
- 6) national strategy for nature protection;
- 7) financing;
- 8) penalty provisions; and
- 9) transitional and final provisions.¹¹

The Law on Nature Protection stipulates the obligation to assess the impacts of measures and activities envisaged under various development strategic, programme and planning documents that might have impact on nature, as well as activities planned in nature, which during their implementation, independently or combined with other activities, may disturb natural balance (Articles 15 and 18). The purpose of these activities is to avoid or minimize nature degradation, and they are implemented in accordance with the provisions of the Law on Environment. These provisions (SEA and EIA) are especially important in terms of preventing fragmentation of habitats during the implementation of projects for the construction of roads, dams, airports, etc. Depending on anticipated or caused degradation of nature, as well as the ability for compensation, compensation measures are envisaged (Article 19), i.e. activities compensating or mitigating nature degradation. In practice, progress has been noted in the application of SEA legal procedure during the

¹¹ State on environment report, 2013.

last years, though ultimate effects do not have satisfactory results. It is especially important to mention that the quality of developed studies, concerned public participation and measures to reduce negative impacts related to biological diversity, is improving. Legal framework for SEA application has been established; however, we may conclude that these procedures do not achieve the desired effect from the nature and biological diversity protection point of view.

The Law on nature protection prescribes measures for the protection of species, habitats, proclamation of protected areas and natural rarities, establishment of ecological network, protection of landscape as well as protection of minerals and fossils.

Species protection

In addition to the general measures for the protection of species and prohibited activities (Law on Nature Protection, Article 21) special measures prescribed to protect the species include: adoption of a red list of species according to their threat status, proclamation of strictly protected and protected species, measures for the protection of internationally protected species, control of the collection and trade in threatened and protected wild species of plants, fungi and animals, keeping and breeding of animals in captivity, introduction and reintroduction of species in nature.

Red List and Red Data Book

Preparation of the Red List provides scientific information and analysis of the state, trend and level of threat to species, in order to turn the attention of the public, and especially decision makers (at national and global levels) towards endangered species in order to design appropriate strategies/ programmes and undertake actions for biological diversity conservation. It has been elaborated in accordance with the criteria for the evaluation developed by IUCN, whereas species are categorized into 7 categories relative to the extent of their being under threat: extinct species (EX), species extinct in the wild (EW), critically endangered (CR), endangered (EN), vulnerable (VU), near threatened (NT), least concern (LC) species, and additionally the category of data deficient species (DD). These criteria have been accepted in the Law on Nature Protection (Article 34). Despite the legal obligation, national red lists

of threatened species of plants and animals have not been adopted by the Government of the Republic of North Macedonia

Strictly protected and protected wild species

Threatened wild species i.e. those that are categorized as critically endangered, endangered or vulnerable may be proclaimed as strictly protected or protected wild species according to Article 35 of the Law on Nature Protection and thus acquiring the status of natural heritage. The lists of strictly protected wild species (including a total of 194 species, of which 9 fungi, 51 flora and 134 fauna species) and protected wild species (a total of 820 species, of which 75 species of fungi, 151 flora and 594 fauna species) were adopted in 2011 (Official Gazette of RN Macedonia no. 139/2011) without prior categorization of species based on their threat status. Unfortunately, the lists mentioned do not state the criteria under which strictly protected and protected species have been determined. They contain many imprecise formulations, a high number of typing, nomenclature and taxonomic errors, synonyms, etc. Lists also include many species that do not have specific importance in terms of threat, endemism or distribution, population status, etc. These deficiencies impose the need to elaborate national red lists of species founded on research and relevant expert assessments. Prohibited activities for strictly protected species are prescribed (destruction, logging, shooting, disturbing etc.), while measures and activities for the protection and method of use of species declared as protected are not prescribed yet.¹²

Protection of species of economic importance

Collection and trade of threatened and protected wild species of plants, fungi and animals

Collection and trade of threatened and protected wild species of plants, fungi and animals and their parts shall be conducted only upon prior acquisition of a license for collection (article 23) or a licence/certificate for trade (Article 29), issued by the Minister of Environment and Physical Planning. The lists of

¹² National Strategy for Nature Protection, 2017-2027.

threatened and protected wild species of plants, fungi and animals and their parts were adopted in 2012 (Official Gazette of RN Macedonia no. 15/12) including:

- all species listed in the annexes of the CITES (List 1);
- species listed in the annexes of the EU Regulation for the protection of wild flora and fauna through regulation of trade (338/97/EC) (List 2);
- List 3, which comprises the national list of plant, fungi and animal species whose trade is regulated under the licensing procedure (D4 or CITES).

According to the Law, the total quantity of endangered and protected wild species of plants, fungi, animals and their parts that are collected for commercial purposes shall be established on the basis of preceding assessment of the species status and opinion obtained from scientific and professional organizations about the population density of endangered species in natural habitats every year and it is not implemented in practice. Submission of applications for import, export and transit permits by business community, as well as issuance of the permits by the competent institution (MoEPP) are carried out electronically through a single-window system for import, export and transit of goods (EXIM), established in 2009 to connect MoEPP, Customs Administration, companies and other competent institutions and agencies. More information on the export of wild species of plants and fungi is presented in Chapter 4.2.10. The possibility for restriction or the prohibition of use of certain species in cases when the favourable conservation status of the species or habitat types is endangered due to unreasonable use of the natural resource is stipulated in the Law on nature protection (Article 14). Collection and trade of the plant species *Gentiana lutea* and *Gentiana punctata* has been prohibited with a Ministerial decision since 2006.¹³

Game

The Law on Hunting prescribes the protection of 133 species determined as game (110 birds and 23 mammal species) of which only 14 species are game without protection. Three ways of protection are prescribed for the protected

¹³ National Strategy for Nature Protection 2017-2027

game: closed season, temporary and permanent protection (Articles 11, 12 and 13).

Based on the conducted analysis of species determined as game and species designated as strictly protected and protected (under the Lists determining strictly protected and protected species of wild plants, fungi and animals), it has been concluded that six species of mammals have been designated as strictly protected species and two species as protected – of which 5 strictly protected species and 2 protected species are considered game under permanent protection in accordance with the Law on Hunting. Out of 77 bird species designated as strictly protected, 71 species are under permanent protection and one species under protection through hunting closed season in accordance with the Law on Hunting, and five species are not considered game or protected species. However, there are discrepancies with EU Directives, allowing longer hunting periods, hunting during breeding season and hunting of species otherwise prohibited in EU. A coherent link between this law and the Law on nature protection needs to be provided in order to avoid duplications that might jeopardise implementation of both laws. Further alignment of the Hunting law with EU's Birds and Habitat Directives needs to be completed.

Protection of habitats and ecosystems

According to the Law on Nature Protection, protection of ecosystems and habitats shall be carried out by way of implementing general measures and activities for nature protection, by using the natural resources in a sustainable manner, and by spatial planning and spatial development (Article 47) ensuring their favourable conservation status (Article 48). The preparation of several bylaws with a national list of habitat types including habitats map, their importance, assessment of threat status (Article 49), as well as measures for preserving the types of habitats in a favourable conservation status (Article 50) requires urgent attention and efforts. Provisions of other sectoral laws are also relevant for the conservation of different ecosystems and habitats. The use of forest ecosystems within the protected areas is prohibited in accordance to the Law on Nature Protection (Article 54). The conservation of the biological diversity of the forest ecosystems shall be carried out by way of protecting the forests within the frames of the protected

areas, through the Programme for the management of forest habitats within protected areas that is a part of the protected area management plan. The conservation and protection of forest ecosystems shall be provided according to the principles of sustainable development, conservation and maintenance of the natural composition of the species and their natural renewal, as well as maintenance of ecosystem services. These provisions are overlapping and interfere with the Law on Forests, which regulates issues related to planning, management, use, protection of forests, and its provisions are applied to all forests and forest land regardless of the ownership and use (Article 1). Specific obligation is given to the management authorities of protected areas – the measures prescribed in the general and specific plans for the management and protection of forests shall be incorporated in the protected area management plan, and the content, preparation and adoption of the special plan for the protection of forests within protected areas shall be prescribed by the Minister responsible for forestry (Article 29). General provisions for waters protection and conservation of biological and landscape diversity in wetlands are contained in the Law on Nature Protection (Articles 55-59), including the prohibition of watercourses partition in a way that contributes to the degradation of the habitat, reduction of water quantity below biological minimum, drying out, covering of springs, marshes and other wetlands, undertaking measures and activities to prevent pollution of aquatic habitats and waters that enter aquatic habitats, prohibition of the construction of facilities or management of natural resources along natural springs, along the banks of natural watercourses, shore areas of natural or artificial lakes, as well as flooding plains of watercourses. These regulations are either insufficient or not properly enforced in practice. A new regulation on the ecological flow of rivers, to replace the old "biological minimum" is under preparation. The Law on Waters stipulates several specific measures for the conservation of wetlands, the goal of which, inter alia, is to provide: protection, conservation and permanent improvement of available water resources, improvement of the status of riverine land, aquatic ecosystems and water dependent ecosystems, protection and improvement of aquatic environment through rational and sustainable use of waters, as well as progressive reduction of harmful discharges and gradual elimination of emissions of dangerous

matters and substances into waters. According to Article 96 of the Law on Waters, the Government of the Republic of North Macedonia determines areas designated as protected natural heritage where maintenance and improvement of the status of waters is an important factor. Protection measures should be specified for zones intended for the protection of plant and animal species living in or depending on water, which are also economically important. Such areas have not been designated yet. The protection of biological and landscape diversity of pasture habitats and grasslands is secured through their traditional use, as prescribed by the Law on Nature Protection, Article 60. The manner of use and the protection of important or endangered types of pasture habitats shall be prescribed by both Ministers responsible for nature protection and in consent with the Minister responsible for the affairs of agriculture and forestry. Additionally, protection measures for grasslands should be prescribed by the Law on pasture management. However, the existing law (adopted in 1998) does not regulate contemporary trends/ needs of the area and does not comply with other relevant laws, so its full revision is required. In order to protect the biological and landscape diversity of the high-mountain habitats and ecosystems, any anthropogenic activity shall be forbidden, except the one related to the traditional stockbreeding, as well as ecotourism in compliance with the principles of sustainable development.

Protected areas

Designation of protected areas in the Republic of North Macedonia started in 1948 when the first National Park "Pelister" was proclaimed. Most of the protected areas were proclaimed during 1960s, 1970s and 1980s and included different bigger and smaller size areas covering different types of habitats, but also different rare, endemic and relict species. During the process of proclamation, status of threat to habitats and species was not considered seriously. Some of the protected areas were proclaimed for the purpose of geo-diversity or fossils preservation. Moreover, the areas were proclaimed at different levels (national or local), the boundaries were not clearly defined, management entities not nominated (except for the three national parks), and objectives of management are unclear. At present, the network of protected areas in RN Macedonia is not a coherent system – it

covers areas proclaimed in different periods, according to different categorizations and with different goals. The Law on Nature Protection provides solid legal basis for the establishment of a representative and efficient system of protected areas, for the purpose of protection of the biological diversity within the frames of the natural habitats, the processes occurring in the nature, as well as the abiotic features and the landscape diversity (Article 65). The Law also encourages international cross-border connection with protected areas on the territories of neighbouring countries (Article 67).¹⁴

National protected areas network

New categorization of protected areas in the Republic of North Macedonia has been prescribed in the Law on Nature Protection, relatively harmonized with IUCN, compared to the previous categorization prescribed in the Law on Natural Rarities from 1973. The names of categories have been retained as those under IUCN categorization, maybe slightly modified or entirely changed. According to Ornat & Reinés (2007), categories of protected areas in RN Macedonia are classified as level 2 of harmonization with IUCN categorization, or categories are practically identical to those of IUCN, though IUCN is not referred to specifically in the national law. The following categories of protected areas and their respective goals of management are specified in Articles 66-90 of the Law on Nature Protection: 1) Category I - (la) Strict Nature Reserve, and (lb) Wilderness Area; 2) Category II - National Park; 3) Category III - Natural Monument; 4) Category IV - Park of Nature; 5) Category V - Protected Landscape; and 6) Category VI - Multipurpose Area. Aiming to harmonize the system of protected areas with existing legislation, the Law on Nature Protection prescribes an obligation for revalorization and preparation of new acts for proclamation under the new categorization of protected areas in the period of 6 years (starting from 2005). In practice, the whole process is implemented very slowly. Declaring one area needs preparation of a study on valorisation /revalorisation, the content of which is prescribed in the bylaw adopted in 2012. In the process of (re-)proclamation,

¹⁴ National Strategy for Nature protection 2017-2027.

public involvement is mandatory (Articles 92-97). After the adoption of the Law, the re-proclamation procedure was implemented for 10 protected areas, and is still in process for one area and 2 new protected areas were proclaimed. At present, the network of protected areas in RN Macedonia comprises of 86 areas. Thus, the protected areas network covers about 9% of the territory of the Republic of North Macedonia. The act proclaiming a protected area defines the boundaries of the protected area, different zones and allowed activities within the area – zone of strict protection, zone of active management, zone of sustainable use and buffer belt, as well as entity nominated to manage that area. Efficient management of protected areas is a great challenge. The main obstacles to the more efficient achievement of the goals of the areas include insufficient capacity of entities mandated with the management of these areas. There is also a need to change the structure of the staff of protected areas managing entities by engaging properly educated staff able to respond to the goals of these protected areas management related to biological diversity conservation. So far, the only operational bodies are the public institutions of the three national Parks, and to some extent the Public Enterprise managing Multipurpose Area "Jasen". In most cases of municipalities being protected-area managers, establishing appropriate management bodies is challenging and there is a real problem with enforcement of the legislation on nature protection. Protected areas management plans are developed by the entity nominated for management within 2 years from the area proclamation, in accordance with the content specified in the Rulebook (Official Gazette of the Republic of North Macedonia no. 26/12); they are prepared for a period of ten years (Article 99), and the adoption procedure includes compulsory public consultation through the organization of public debates. Last year, NP Pelister developed a Management plan (October 2020), NP Galicica is developing a Management plan and for the future protected area Shar Mountain, a management plan is also under preparation. Most protected areas with developed management plans have not finalized the process due to deficiencies in the procedures. Mavrovo National Park is one of them, still lacking a Law on re-proclamation and a Management plan. At the same time, protected areas with management plans in place lack external evaluation of their implementation

with regard to the achievement of the goals for which the protection has been established.

Spatial plans are adopted for the purpose of regulating and using the space in the protected areas (Article 103 of the Law on Nature Protection) – compulsory for the category of National Park, and as required for other categories of protected areas. The first Spatial Plans for NP Galichica, NP Pelister and NP Mavrovo were adopted in 1988 and they remain valid until the adoption of new plans. In the course of 2011, a draft Spatial Plan was prepared for NP Galichica (2009-2020), and in the course of 2013-2014, the draft Spatial Plan for NP Mavrovo (2012- 2030), but they have not been adopted yet.

Immediate protection of protected areas is implemented by a ranger service, established or appointed by the management entities (Article 108), and the manner of protection application is specified in Articles 109-112 and several bylaws. Ranger service has only been established in the three National Parks, Multipurpose Area "Jasen" and PN Ezerani and NM Prespa Lake. Due to difficulties of administrative, financial and legal nature, some protected areas are unable to establish the Ranger service (Vevchanski izvori Monument of Nature), in spite of completed Management plans.

Funding of protected areas is also a great challenge because no resources for their funding, whatsoever, are allocated in the Budget of the Republic of North Macedonia. The Law on Nature Protection stipulates different manners in which National Parks (Article 141-a) and other protected areas (Article 161) may generate financial resources and keep their own revenues (e.g. through entrance fees in the protected areas or in specific facilities, for performance of activity in the protected area, compensation for use of resources, navigation, logo of the National Park on products and services for commercial use, ecosystem services and other sources). National Parks are self-financing institutions, which need to undertake an entrepreneurship approach to cover their own expenditures. Most of the Parks take advantage of the proposed possibilities and support by donors, for the purposes of construction of infrastructure, preparation of management plans and support to technical staff. There is a general expectation that investments made in tourist infrastructure development will contribute to the generation of significant

revenues for management upon project completion. However, there is also a danger that the need for revenues generation in the future might divert management towards commercial activities which is far from generating revenues required for protection focused management. Certain areas have a potential to generate revenues beyond doubt, through tourism and use of resources, or to attract donors, while other areas of the same and even greater value cannot hope for financial sustainability (Apelton 2008).

The current network of protected areas is not efficient and copes with many challenges: the areas are proclaimed under different categorizations; the process of re-proclamation is going on very slowly; there is a notable difference in the position of protected areas between eastern and western parts of RN Macedonia; most areas do not have management entities or nominated entities have insufficient capacity or fail to implement any measure/activity; management plans have only been prepared for the national parks and few other areas; besides the legal grounds for funds allocation from the central budget, protected areas are still self-financed.

Important plant areas

Important Plant Areas (IPAs) are the most important sites in the world due to the diversity of wild growing plants (Radford & Odé 2009). IPAs are defined as areas with natural or semi-natural habitats abundant in specific plant diversity, i.e. rare, threatened and/or endemic plant species and/or plant communities of great botanical value. This mechanism has been accepted at global and European level as contributing to the conservation of plants that are important for their rarity or uniqueness, due to over-exploitation or for their rarity and/or uniqueness due to over-exploitation or being threatened for other causes. Identification and designation of IPAs in Europe has been initiated by PlantLife International and takes place in accordance with defined criteria that are applicable on a global level based on the presence of:

A – endangered species,

B – plant diversity,

C – endangered habitats.

Identification of IPAs in the Republic of North Macedonia was carried out in the period 2003-2009, resulting in the identification of 42 IPAs covering around 459.425 ha, or almost 18% of the national territory (Melovski et al. 2010). Some of these Important Plant Areas cover large areas (mountain massifs), and some have relatively small areas (areas with wetlands and areas with steppe like vegetation). Five areas are characterized with globally threatened species, though there is a need to undertake further analysis in RN Macedonia for many endemic and sub-endemic species. Forests and grasslands are the most frequent IPAs in RN Macedonia, covering 85% and 67% respectively of the identified IPAs, where such habitats are often predominant vegetation types, especially the 18 mountainous IPAs. From among grasslands, dry pastures are the most frequent (on 20 IPAs), followed by alpine and sub-alpine pastures (12 IPAs). Rare habitats or habitats with sparse vegetation are also frequent on IPAs in RN Macedonia and occupy 60% of the overall IPAs. Protection of these areas on a national level is insufficient – only 13 IPAs (in full or in part) are protected on a national level. Twelve IPAs are transboundary, i.e. Important Plant Areas positioned on the border with neighbouring countries.¹⁵

Important bird areas

The programme for Important Bird Areas (IBAs) is an initiative carried out by BirdLife International on a global level in order to provide conservation of areas that are important for the conservation of globally endangered bird species and species of European interest for conservation, areas for migratory birds which gather in high number, areas for birds specific to a small region and areas where groups of species specific to a given biome can live (Heath & Evans 2000). The First List of IBAs for the territory of Europe was published in 1989, where ten areas covering a total area of 2709 km² (around 10% of territory of the Republic of North Macedonia) were identified in RN Macedonia (as part of SFRY). The latest review of the Important Bird Areas in RN Macedonia was made in the course of 2010 resulting in the identification of 24 IBAs covering an area of 6709 km² or 26.9% of the national territory

¹⁵ National Strategy for Nature protection 2017-2027

(Velevski et al. 2010). For the purpose of the selection of areas of European importance, 26 species constantly present during nesting seasons were used, for which it was deemed that the approach of locality based protection is appropriate for RN Macedonia. 22 localities meet the criteria for globally important areas – three localities (Ohrid, Prespa and Dojran Lakes) meet the criterion A4 – co-generation (above 1% of the global population of waterfowls or more than 20.000 waterfowl individuals), eight areas support important populations of species specific to Mediterranean biome, and three other areas host important populations of species specific to European alpine biome. The network of IBAs includes 80-100% of the national populations of globally threatened species, while the coverage of other species ranges between 7% and 100%, reaching above 40% for most of the species. Protection of these areas on a national level is insufficient – only few areas are fully protected (Prespa Lake, Tikvesh Lake, Demir Kapija and Radika River Basin), and most of them lack any measures for protection. The network of IBAs overlaps with the network of protected areas in only around 10%, which is insufficient to preserve priority species of birds. An additional challenge is the need for precise determination of IBAs for forest bird species.¹⁶

Prime butterfly areas

Prime Butterfly Areas in Europe are in the initial stage of selection, aimed at target species of priority for conservation in this huge diverse region. Three main criteria are used in determining the Prime Butterfly Areas, namely (Warren & van Swaay 2003): global distribution of the species is limited to the area of Europe; species is listed in Appendix II of the Bern Convention and/or Habitats Directive and the species is endangered according to data available in the Red Book of Europe's butterflies. There are five target butterfly groups in RN Macedonia according to which Prime Butterfly Areas are identified: *Euphydryas aurinia*, *Euphydryas maturna*, *Lycena ottomana*, *Maculinea arion* and *Parnassius apollo*. Taking into account the distribution of these species, eight prime butterfly areas have been identified in the territory of RN Macedonia. Three of the eight areas already have a certain level of protection on a national level (part of Baba Mountain, Galichica and the Gorge of the river Radika are within the boundaries of the existing national parks). In the

¹⁶ National Strategy for Nature protection 2017-2027

course of 2007, project activity was carried out in order to identify new prime butterfly areas in border areas with Serbia and Bulgaria (Micevski & Micevski 2008).¹⁷

Ecological networks

An ecological network is a system of mutually connected or spatially close ecologically important areas, connected by natural or artificial corridors, which by balanced biogeographical distribution contribute significantly to the protection of natural balance and biological diversity. The establishment of a national ecological network also comprising, in addition to ecologically important areas, a system of ecological corridors, protected areas and areas proposed for protection, as well as ecologically important areas for the European Union – Natura 2000, is stipulated in the Law on Nature Protection (Article 53). This will provide functional protection of biological diversity outside protected areas as well. The establishment of the national ecological network is envisaged in several national strategic documents, such as: the Spatial Plan of the Republic of North Macedonia (2004) (basic elements are defined in the Study on the protection of natural heritage of 1999, the Second National Environmental Action Plan - NEAP (2006) and the First National Biodiversity Strategy and Action Plan - NBSAP (2004).

Emerald Network / Natura 2000

Emerald network is a network of areas of special conservation interest designated to preserve the network of natural habitats and it is developed on the territory of the Parties to Bern Conventions. The main motive behind the development of this network is to contribute to the ecological network Natura 2000 in countries that are not member states of the European Union, using a similar methodological approach as much as possible. Activities towards the development of the national Emerald network in the Republic of North Macedonia started back in 2002, and full identification was finalized in 2008. A total of 35 areas is included in the national Emerald network covering a total area of 752.223 ha, which is around 29% of the territory of the Republic of North Macedonia (MoEPP 2008). 20 of these areas are located in alpine biogeographical region (Western Macedonia), and the rest of 15 in

¹⁷ National Strategy for Nature protection 2017-2027

continental region (Eastern Macedonia). 12 Emerald areas are fully and two partially protected on a national level within the boundaries of existing protected areas, while the rest is outside the network of protected areas. In the process of integration into European Union (upon awarded candidate country status in 2005), the Republic of North Macedonia is obliged and committed to respond to the requirements of the EU, including the implementation of the two most important directives on nature – Habitats Directive and Bird Directive which are the grounds for the establishment of the Natura 2000 network. The Sectoral Strategy for approximation in the segment of nature and forestry (prepared in the frames of the CARDS 2006 Project "Strengthening of environmental management in the Republic of North Macedonia") included a detailed gap analysis on the basis of which actions necessary for full legal transposition and practical implementation of the two Directives were defined. So far, activities have focused on the transposition of directives into the national legislation through the implementation of several projects by MoEPP, as well as non-governmental organizations, and identification of Natura 2000 sites started in the frame of the EU- funded 'Strengthening the capacity for effective implementation of European legislation in the field of nature protection' project. The identified important areas for birds, plants and butterflies and Emerald areas can certainly serve as a good basis for their implementation.

5.2.3 Most important international agreements related to biological diversity conservation ratified by the Republic of North Macedonia

- Convention on Biological Diversity (Rio, 1992)
- Cartagena Protocol on Bio-safety to the Convention on Biological Diversity (Cartagena, 2000)
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971)
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)
- Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)

- UNESCO Convention for the Protection of the World Cultural and Natural Heritage (World Heritage Convention, Paris, 1972)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Washington, 1972)
- European Convention for the Protection of Vertebrate Animals Used for Experimental and other Scientific Purposes (Strasbourg, 1996)
- European Landscape Convention (Florence, 2000)
- Agreement on the Conservation of Bats in Europe (London, 1991)
- Agreement on the Conservation of African-Eurasian Migratory Waterbirds (Hague, 1995)
- Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Aarhus, 1998)
- UN Framework Convention on Climate Change (Rio de Janeiro, 1992)
- UN Convention to Combat Desertification in Those Countries Experiencing Drought and/ or Desertification, Particularly in Africa – UNCCD (Paris, 1994)

5.2.4 National framework for approximation of legislation

The 2017-2019 update of the National framework for the approximation of the national legislation with the European law provides mid-term plans for the transposition of Nature legislation. Namely, according to this document, a new draft Law on Nature Protection has been drafted, transposing the provisions of the Directive on the protection of wild flora and fauna and the Birds Directive (2009/147 / EC), within the framework of an IPA funded project: 'Strengthening the capacities for the implementation of Natura 2000'. The main goals of the IPA project are strengthening of the administrative capacities on a central and local level for implementation of the legislation on protection of nature, in particular the requirements of the EU Birds Directive and the Habitats Directive. According to this update, bylaws were drafted, relating to Natura 2000; training modules on questions related to Natura 2000 have been conducted and a specialised web page has been developed, as well as brochures for Natura 2000. Habitat and species identification activities

started on a national level in accordance with the Habitats and Birds Directives, as well as the identification of potential pilot areas for Natura 2000.

Even though the draft Law on Nature has been developed, the process has not been finalized as of November 2020. According to the Ministry of Environment and Physical Planning, the draft text of this Law is still in an inter-institutional consultation and changes are still being made.

The document further informs that a National Nature Protection Strategy has been developed. In 2018 the document was officially adopted, including an Action Plan (2017-2027) and a set of indicators for the actions.

According to the national framework, additional by-laws will be adopted to ensure the further transposition of EU Habitats and Birds Directives such as: a Decree establishing the National Ecological Network as well as measures for the protection of areas of the ecological network, a Regulation on the Lists of European habitat types and European species, including the priority European habitat types and the priority European species for which it is necessary to determine Sites of Community Importance and the List of Bird Species for which Important Bird Areas need to be identified; a rulebook on the criteria for the selection of sites that are appropriate for the identification and determination as Sites of Community Importance and a Rulebook on the form and content of the Sites of Community Importance and Important Bird Areas data form.

In relation to the Habitats Directive and the Birds Directive, nine (9) areas have been proposed as potential Natura 2000 sites and two (2) areas of high natural potential. These 9 potential Natura 2000 areas with a Standard Data Form (SDF) ready format are not a legal obligation for the candidate country. All potential Natura 2000 areas need future research. There is a need for better data quality and future research in the field of forest habitats in order to be able to mark the sites.

- 9 locations proposed as potential Natura 2000.
- 4 locations with a "potential for a larger location" scenario.
- 2 areas of high potential for Natura 2000.

Three (3) of them are proposed as potential Special Protection Areas (SPAs), in accordance with the Birds Directive. Six (6) areas have been proposed as SCIs under the Habitats Directive.

In terms of the development of by-laws, draft Red lists have been prepared, however, there has been no development in the case of the rulebooks and decrees mentioned above.

Although one of the main features of the EU Habitat Directive is the Appropriate Assessment of the implications of certain plans and programmes to Natura 2000 sites, the current legal framework does not prescribe it.

Recommendations

Based on the above analysis of the transposition of European Directives into the national nature legislation, the following recommendations should be considered in furthering the approximation process:

- Finalize the inventory and assessment of threatened species;
- Adopt a Red list of threatened species and a respective Red Book for these species protection and conservation.
- Finalize re-evaluation and re-designation of all protected areas in accordance with the Law on Environment.
- Proceed with the expansion of the protected areas networks in a way representing the key habitats of importance for biodiversity conservation to be supported by local rural communities.
- Adopt a management plan for individual protected areas.
- Ensure state funding for protected areas.
- Establish an Institute for Nature within the Ministry of Environment and Physical Planning to address capacities in nature protection and monitoring.
- Finalise the harmonization of the draft Nature Law with EU Directives, including the addition of the Appropriate Assessment chapter, and adopt the new Law.
- Adopt planned bylaws.
- Further align Nature Law and Hunting Law to eliminate conflicts and duplications.

- Align the Nature Law and Forest Law to eliminate conflicts and duplications.

5.3 The progress of transposition of the EU acquis and standards in the national legislation in the area of combating environmental crime

5.3.1 Environmental security

The process of globalization of threats related to environmental problems is particularly present worldwide. Global security is directly related to environmental security, which is affected by overall climate changes, desertification, deforestation, pollution of all eco-media - soil, water, air, migration, military conflicts, and many other factors.

Environmental security is an important segment for a safe human environment and a prerequisite for a healthy environment, in which security risks and threats will be at the lowest possible level. These include threats that degrade the local ecosystem and also those degrading the global system. Environmental security includes renewal, compliance, conservation, pollution prevention, environmentally safe technology, and international activities. At the same time, we should emphasize that besides environmental protection, the vital interests of citizens, society, and the state are protected from internal and external threats against human health, biodiversity, sustainable functioning of ecosystems, and human survival. Environmental hazards can be caused by natural processes or human activity. Therefore, it is necessary to act on the state of dynamics between man and the environment to prevent pollution and disturbance of a healthy human environment.¹⁸

Given the definition of security by the United Nations as a state in which countries have no dangers of a different nature, and can develop freely, we can define environmental security as a state in which there is no threat or endangerment of the environment to wildlife.¹⁹

¹⁸ Mileski T. Environmental security, Skopje, 2006

¹⁹ Malish Sazdovska M. Environmental safety - conditions and challenges, Security, Environmental Security and the Challenges of the Republic of Macedonia, Proceedings, Ohrid 2010

5.3.2 Environmental crime

Concerning environmental security, criminal activities like disposal of radioactive waste, illegal trade in protected species of animal and plant species, the activities of the forest mafia, etc. are also related. Environmental security is related to international, national, and personal security, and in that context, it is necessary to study the factors that cause and affect environmental security. To protect the environment, the national laws of the states prescribe environmental crimes as punishable acts that protect the environment, biodiversity, including all ecosystems of water, soil, and air.

In the Republic of North Macedonia criminal offenses against the environment are provided in the Criminal Code, Chapter XXII (Article 218 to Article 234). It stipulates the protection of the environment, air, soil, water, etc., from generally dangerous actions that endanger the life and health of humans and other living organisms on earth, leading to the destruction of humans and nature. Criteria, based on which the criminal acts in this chapter are provided, are related to the generally dangerous nature of these acts; the danger and endangerment of the object of protection on a larger scale, in a wider area; the intent and careless form of guilt, etc.²⁰

In the national legislation of the Republic of North Macedonia are mostly transposed the provisions of the international legislation, especially the legal norms from the European Union and the international legal acts. For example, the Criminal Code provides criminal offenses prescribed by CITES, the Agreement on International Trade in Endangered Species of Wild Fauna and Flora. Namely, besides environmental crimes that were already envisaged, such as environmental pollution desertification, illegal hunting, illegal fishing, torture of animals and others, the following crimes have been added: unauthorized hunting, keeping and expropriation of wild animals and birds; killing or destroying protected species of wild flora or fauna; unauthorized placing of wild species in nature; unauthorized trade, import or transportation of wild flora and fauna under the CITES Convention.

But the problem in combating environmental crimes does not only relate to the legal norms, but rather to the implementation of laws and other bylaws.

²⁰ Malish Sazdovska M.,*Handbook for Environmental Crime Investigations*, Faculty of security, Skopje, 2013

Namely, there is a problem in the implementation of legal norms, including the part related to the detection and proving of environmental crimes.

There are numerous indicators of problems in the implementation of legal provisions in the fight against environmental crime. Thus, according to the State Statistical Office for 2017, a total of 151 perpetrators of crimes against the environment were identified, of which 128 were already known. For these perpetrators: charges were rejected for 46 people, investigation was stopped for 11 people, and indictment proposals were filed for 71 people. The conclusion is that criminal investigations are ineffective and several indictments have not been processed. This indicates that the authorized officials are not professional and trained for effective suppression of environmental crimes. Regarding the sentences for 2017 out of 62 total convicted persons, alternative measures were imposed to 35 persons, suspended sentence: 3 months imprisonment for 19 persons, 3 to 6 months imprisonment for 3 persons, and from 5 months to 1-year imprisonment for 4 persons. Confiscation of the property was imposed only in one case. There is a total of 62 convicted persons and 27 sentences imposed, as follows: only 4 prison sentences were imposed and fines for 22 persons and expulsion of a foreigner for one person for the criminal act of Desertification of the forest. In 2017, there were a total of 20,582 adults charged, of which 151 persons for environmental crimes, namely: usurpation of real estate, forest devastation, illegal hunting, illegal fishing, animal torture, and others.²¹ From the above statistics, the conclusion is that the penal policy in the country is extremely mild. There are a large number of suspended sentences and fines, and a small number of prison sentences. This contributes to the occurrence of recurrence or recidivism, whereby the perpetrators reappear as perpetrators of these crimes. In those cases, there is no special prevention for the already convicted perpetrators not to repeat the crime, but there is also no general prevention for the other members of the society not to appear as perpetrators of environmental crimes. It also concludes that public prosecutors and judges are not sufficiently trained to tackle environmental crimes and have a low level of awareness of the seriousness of environmental crimes, resulting in the country's mild penal policy.

²¹ <http://www.stat.gov.mk/PrikaziPoslednaPublikacija.aspx?id=43>

International legal acts for the suppression of environmental crimes and their transposition in the Republic of North Macedonia

To regulate the environmental protection issue, the international community has long since begun adopting international documents, from the Declaration on the Environment at the Stockholm Conference in 1972, through the Convention on the Control of Transboundary Movements and Storage of Dangerous Substances (1989) and the Convention on Biological Diversity from the Rio Summit (1992), to the latest international treaties and conventions governing this matter.

However, few documents refer specifically to crimes against the environment called environmental crimes. This matter is processed by DIRECTIVE 2008/99 / EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on the protection of the environment through criminal law.²²

Directive 2008/99/EC on the protection of the environment through criminal law – more commonly known as the Environmental Crime Directive – is an essential piece of EU legislation in presenting a unified approach to environmental protection across the European Union. The Directive compels EU Member States to provide criminal penalties for a minimum set of offences against the environment to increase compliance with EU environmental law. The EU environmental *acquis* makes up a major portion of European Union law, consisting of some 300 legislative acts. The introduction of criminal punishment is intended to increase compliance with environmental law across Europe by making the penalties for violations more severe and more standardized across the Member States. Harmonizing criminal offences across the Member States ensures that actors are equally deterred from committing crimes in each of the countries that have transposed the Directive.²³

The directive addresses such offences as a threat to the environment and therefore calls for an appropriate response. Its main purpose is to establish measures relating to criminal law to protect the environment more effectively. Article 3 of the Directive lists the criminal offenses covered by the

²² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0099>

²³ http://themisnetwork.rec.org/uploads/documents/Studies/%5bThemis%5d%20Environmental%20Crimes%20Directive%20Implementation%20Report_July2015.pdf

Directive, concerning: materials or ionizing radiation, waste, the shipment of waste, the operation of a plant, nuclear materials or other hazardous radioactive substances, specimens of protected wild fauna or flora species or parts or derivatives thereof, habitats within a protected site and ozone-depleting substances. Punitive behaviour related to these phenomena should be considered as criminal offence. While the penalties (criminal penalties) that are provided should be effective, proportionate, and dissuasive, and they should apply to both individuals and legal entities.

All states in South-eastern Europe have introduced crimes against the environment into their criminal codes. However, harmonization of national penal codes with the crimes included in the Environmental Crime Directive varies significantly by state, with some states achieving essentially full compliance and others including only basic pollution crimes. Many crimes are "partially harmonized", criminalizing only certain aspects of the offences listed in the Directive. Sanctions imposed for environmental crimes, particularly about the size of fines imposed, also vary significantly from state to state. All states provide for both accomplice liability and liability of legal persons, as required by the Directive.

With the amendments to the Criminal Code in 2012, and according to the Themis report in Macedonia, the following offences comply with or refer to this directive:

Criminal offences from the Criminal Code in correlation with Article 3 of the Directive

Article of Criminal Code	Article 3 Offence
218: Pollution of air, soil, water, water surface, or water flow	3(a)
230: Waste pollution (by storage, disposal, or handling)	3(b)
218(2): Illegal construction or operation of a facility that pollutes the environment	3(d)
231: Illegal procurement, use, transport, or gift of nuclear materials	3(e)*
232: Illegal import of radioactive materials and hazardous waste	
228(4): Illegal hunting of protected wild animals	3(f)**

* Article 3(e) applies to both nuclear materials and other hazardous radioactive substances. The current structure of Articles 231 and 232 of the Penal Code only limits the importation of hazardous radioactive substances other than nuclear materials. Further, Article 231 does not cover the illegal production of nuclear materials, as required by Article 3(e) of the Directive.

** Article 3(f) also requires the criminalization of destruction or possession of protected animals and animal specimens as well as protected plants and plant specimens.

This report also concludes the following shortcomings of the Criminal Code:

- Article 230 of the Penal Code is structured only to address pollution by an individual's handling of waste, and not to prevent illegal transnational shipments of waste, as envisioned by Directive Article 3(c).
- No offences exist for the destruction of habitats within protected areas (3(h)), or trade-in ozone-depleting substances (3(i)).
- While Articles 228 and 229 of the Penal Code address illegal hunting and fishing, harmonization with the Directive's plant and animal crimes are minimal. Some actions (possession, destruction, and trade) as well as several objects (protected plants, plant, and animal specimens) need to be criminalized for harmonization with Directive Articles 3(f) and 3(g).
- Illegal operation of environmentally hazardous facilities (Directive Article 3(d)) is covered under subsection 2 of Article 218 of the Penal Code.

Hence, the conclusion is that the Macedonian Penal Code appears to be effectively harmonized with the goals of the Directive for this crime.

With the next amendments to the Criminal Code in 2014,²⁴ other criminal offences in correlation with the directive were also prescribed. Specifically, it refers to the following crimes:

²⁴ Official Gazette no. 27 from 5 February 2014

Criminal offences from the Criminal Code in correlation with Article 3 of the Directive

Article of Criminal Code	Article 3 Offence
Article 218-a - Production, trade, or use of ozone-depleting substances	3i
Article 228-a - Unauthorized hunting, keeping, and alienation of wild animals and birds	3f
Article 232-a Killing or destroying protected species of wild flora or fauna	3f
Article 232-b Unauthorized trade, import or transportation of wild flora and fauna	3g

These amendments improve the transposition of the provisions of the Directive with national legislation and thus provide for criminal offences about Article 3 of the Directive, namely paragraphs 3a, 3b, 3d, 3f, 3g, and 3i. So we can conclude that compliance with this Directive is still needed in the coming period, especially in the part of prescribing all criminal offences provided for in Article 3 of the Directive.

As it concerns penalties, Article 5 of the directive requires the Member States to ensure that the offences referred to in Articles 3 and 4 are punishable by effective, proportionate, and dissuasive criminal penalties. The application of this article will be a serious problem in the Republic of North Macedonia because we have concluded that the penal policy is mild, and does not contribute to effective and dissuasive punishments. In the coming period, it will be necessary to train public prosecutors and judges on the consequences of environmental crimes and the need to improve the penal policy to provide special and general prevention for the perpetrators of these crimes. It also requires a well-developed environmental culture together with a good level of enforcement of administrative environmental provisions and an overall

criminal justice system assuring the effectiveness of the application of criminal sanctions to the perpetrators of offences.²⁵

Suppression of environmental crime

In the fight against environmental crime, a great variety of actors and institutions are involved at various levels and stages, both at the regulatory level, i.e. in creating instruments to combat environmental crime, and in enforcement, i.e. using these instruments. Actors and institutions at the Member State level play a key role in combating environmental crime, as they are mainly responsible for the implementation of instruments and enforcement of legal rules against environmental crime. The Member States still play the dominant role in the efforts to combat environmental crime, as criminal law is a core national competence. National level actors and institutions, such as the police, customs, public prosecutors, courts and administrative authorities, are mainly responsible for monitoring, investigating, prosecuting and sanctioning environmental crimes.²⁶

Important actors and institutions in the fight against environmental crime²⁷

National Level	EU Level	International Level
Regulatory Bodies	Regulatory Bodies (Commission, Parliament, Council)	UN Convention Bodies (e.g. Marpol, Basel, CITES)
Administrative Authorities		UN Organisations (e.g. UNEP, UNECE, UNODC)
Prosecutors		Other International Organizations

²⁵ Directive 2008/99/EC on Environmental Crime and Directive 2009/123/EC on Ship-source Pollution, https://www.ecologic.eu/sites/files/publication/2015/efface_directives_2008-99-ec_environmental_crime_and_2009-123-ec_ship-source_pollution.pdf

²⁶ ENVIRONMENTAL CRIME AND THE EU Synthesis of the Research Project "European Union Action to Fight Environmental Crime" (EFFACE)

https://efface.eu/sites/default/files/publications/EFFACE_synthesis-report_final_online.pdf

²⁷ Ibid

		(e.g. WCO)
Courts	Courts	Interpol
Customs	Agencies (e.g. Europol)	
Police		
	NGOs	
	Networks	

The competent authorities for combating environmental crime at the national level are the police, inspection bodies, customs, public prosecutors, judges, and others. Criminal investigations are being conducted in the Republic of North Macedonia to detect, prove, and clarify environmental crimes. At the beginning of the criminal investigation it is the law enforcement bodies that detect and prove the crime against the environment, namely the police, inspection bodies, and customs. Regarding the police as a competent body for the suppression of these crimes, it should be emphasized that this includes the uniformed police that acts according to certain laws, such as the Law on Public Cleanliness, but also the criminal police which according to the positive legislation is ex officio responsible for the detection of all criminal offenses provided by the Criminal Code.²⁸ However, in the Ministry of Interior there is no special department or sector in place, staffed with inspectors who are only responsible for combating environmental crime. Namely, in the criminal police in some departments, there are inspectors who deal with the suppression of environmental crimes, besides other issues. With such an organizational set-up, the Ministry of Interior cannot identify perpetrators of these crimes, conduct an effective criminal investigation and file quality criminal charges, which will not be rejected by the public prosecutor or for which the criminal investigation will not be halted. It is necessary, following the example of European countries, to establish a special department in the Republic of North Macedonia with qualified inspectors who will be responsible exclusively for combating environmental crime in the country. Only in that way, it will be possible to create conditions for preventive and repressive action in detecting the perpetrators of environmental crimes and bringing them to justice.

²⁸ Malish Sazdovska, M. „Criminal police and environmental crime,, Skopje, 2005

Inspection services such as the State Inspectorate of Environment and Nature, and other competent authorities, such as the Forest Police, are not sufficiently staffed, either with human or technical resources. It is necessary to equip them with competent staff, specialized in detecting and proving environmental crimes being able to not only carry out quality control activities in the field but also specific repressive measures to fully clarify the crimes.

It is also common for members of the Forest Police, for example, to seek assistance from the police because they face serious problems in their actions on the ground, such as the use of violence by perpetrators, assault using physical force and fire weapons, application of new sophisticated modus operandi in committing the crime, etc. Unfortunately, in the Republic of North Macedonia, there is a case of the murder of a forest policeman who was on duty on Mountain Kitka and two forest guards in the Kumanovo - Lipkovo region.

Regarding the competencies of public prosecutors and judges from the analysis of the penal policy in the country, it can be concluded that they are not sufficiently trained and have a low level of awareness of the seriousness of environmental crimes and their negative impact on the environment. It is necessary to conduct training for public prosecutors and judges to increase their knowledge of the environmental crime, the manner of conducting the acts, and the procedures by which forensic analysis can reliably prove the crimes. In that way, they will be able to conduct quality investigative procedures that will result in the identification of the perpetrators of environmental acts but will also take into account other aspects of environmental protection, such as the principle of remediation, i.e. return to the original condition of the contaminated area.

A special danger in the country is organized criminal groups that appear as perpetrators of environmental crimes. Namely, in the country, there are organized forms of crime, especially in deforestation, illegal hunting, illegal fishing, and other crimes. To prevent the activity of these organized criminal groups, the continuous and systematic activity of all competent bodies is needed.

However, there are also partially positive examples of combating environmental crime, such as the operational action "Gora", which is carried out by members of the Ministry of Interior to combat the crime of forest devastation. It results in persons deprived of their liberty, confiscation of illegally cut timber, confiscation of items used to commit the crime such as: trucks, tractors, trailers, chainsaws for cutting, etc. But the main problem is that these activities are not continuous and systematic, but are performed on ad hoc basis seasonally and not on the whole territory of the country.

The Academy for Judges and Prosecutors delivers certain training activities in the field of environmental crime and its suppression, but the question arises as to how trained this staff is, whether the scope of training is satisfactory and whether all public prosecutors and judges participated in the training.

Besides individual cases of socially responsible and professionally engaged experts and institutions that advocate and act for legal protection in the field of environment there is also the Macedonian Association of Young Lawyers. This non-governmental organization undertakes significant and concrete activities through active monitoring of all environmental conditions throughout the country, and especially important are the support and conduct of legal proceedings aimed at systemic change or change of negative conditions in the society, as well as developing research, analysis, legal opinions on the situation and shortcomings to environmental protection and giving appropriate recommendations to overcome them. However, it must be emphasized that the members of the association undertake concrete activities to combat environmental crime in the country by filing a lawsuit at the Civil Court, regarding the effectiveness of measures to reduce the concentrations of PM 2.5 and PM 10 particles in the air; as well as filing criminal charges against holders of public office due to failure, i.e. non-execution of actions for environmental protection, which according to the Macedonian laws, they were obliged to implement.²⁹

²⁹ <https://myla.org.mk/>

Conclusion

Analyzing the Directive for the protection of the environment through criminal law, we can conclude that some of the legal provisions have been transposed into the Macedonian national legislation, but the main problem, as for other legal solutions, is the implementation of the laws. Namely, it can be concluded that the Criminal Code also provides for criminal acts following Article 3 of the Directive, but the question is how much the competent law enforcement authorities act in criminal investigations aimed at suppressing environmental crimes in the country. It is also necessary to amend the Criminal Code with the acts provided in the Directive, which are not an integral part of it.

From the analysis of the statistical data of the State Statistical Office, it can be concluded that a small number of environmental crimes end with an efficient court conclusion. Misdemeanours in this area are more common, and unfortunately, the number of prosecuted crimes against the environment is significantly lower.

Regarding the criminal investigations and the competent authorities of prosecution and judicial bodies, the proposed measures that should be taken in the next period are the establishment of environmental police or establishment of special departments within the Ministry of Interior for the suppression of environmental crimes; strengthening the capacities of the competent bodies (inspection services, forest police, etc.) by strengthening the human and technical resources; mandatory training of public prosecutors and judges; improving the efficiency of penal policy and, if possible, establishing specialized environmental crime courts.

It must be noted that the suppression of environmental crime in the Republic of North Macedonia through the application of the Criminal Law Directive is not possible to be only be achieved through some activities of some competent authorities. On the contrary, it is necessary to act efficiently throughout the year, on the territory of the whole country, with specific operational measures and activities of all competent bodies. Only one competent body, for example, the Ministry of Interior is not able to provide a quality criminal investigation with a specific court decision, but they are only part of a system of competent bodies that all with mutual inter-sectoral

cooperation should act to effectively combat crimes against the environment.

The establishment of the National Environmental Security Task force has also been proposed, which would include the Police, Customs, Environmental Agencies, other Specialized Agencies, the Prosecutor's Office, Non-governmental Organizations, and Intergovernmental Partners. They would aim to network competent authorities, exchange information, and take a multidisciplinary approach to combat environmental crime.

06. Serbia

6.1 Reflection paper on air quality data for Serbia

Air pollution in Serbia in general

Premature deaths as a result of air quality and poor air quality constitute a major economic loss; United Nations experts estimated in their 2015 report for the year 2010 that the costs for the state of Serbia due to this reason are 33% of gross domestic product annually, while the costs of sick leave are about 325 million euros each year. According to data from the World Health Organization (WHO) for 2016, the number of premature deaths in the Republic of Serbia is 6,592, and it is estimated that, in 2016, 4,823 people died from the impact of indoor (household air pollution) air quality..

End of October 2019 EEA data on air quality show that the region is among the most polluted in Europe.



The implementation of IPA 2012 projects "Establishment of an integrated environmental monitoring system for air and water quality", namely "Supply of ICT equipment and software for Air Quality Monitoring System" has enabled the Environmental Protection Agency of the Republic of Serbia, the competent national institution for monitoring air quality to present a comprehensive overview of the data of automatic air quality monitoring in the territory of the Republic of Serbia on its website in real time.

In 2020, the Serbian Environmental Protection Agency, issued an official, well documented report on air quality in Serbia in 2019, which noted the related existing problems. This heightened public interest in poor air quality is a good opportunity to recall **the conclusions of the conference "Environment to Europe-EnE19 conference on air quality in Serbia"**, held on June 4, 2019.

Belgrade, and co-organized by the EASD and Serbian Chamber of Commerce (<http://ambassadors-env. om/en/2019/06/07/4822/>). At the same time, the conference represented the official UN event marking the World Environment Day and the European Sustainable Development Week (ESDW) in the Republic of Serbia.

The aim of this conference was to draw attention of the general public to extremely topical environmental issues and the need for their continued resolution, with particular reference to the severely impaired air quality throughout our entire country, which is a first-class environmental protection issue.

Activities to improve air must be focused locally while at the same time thinking globally, changing the focus of action toward major factors that directly affect air pollution, such as the thermal energy capacities used for heating, individual fireplaces and traffic. The economy is a key factor of society changes and if we want to change the conditions we live in for the better, we need to change technologies and apply those that contribute to reducing environmental pollution.

The conference/roundtable showed and pointed out to the problem faced by many cities in Serbia, the problem of air pollution, which is now most pronounced in Valjevo, Niš, Užice, Belgrade, Smederevo, but which is actually the problem of the entire Serbia that must be solved in a synchronized and systematic manner; this calls for cross-sectoral work to address the reduction of air pollution to be implemented throughout the country and requires the following:

- Reduce the combustion of solid fuels for domestic heating and cooking, reducing the risks associated with operating industrial sites. The Ministry of Environment is adopting an operational approach to improving the environment, providing incentives to local self-governments to address these issues and to act to improve the air quality in their local communities. "The Ministry must turn to practical concrete measures, which means that from now on, not only in the Ministry budget, but also in the local self-government budgets, funds must be allocated to shut down at least a few individual fireplaces each year in each city and to switch to cleaner sources." Local self-governments must plan within their budgets the funds to shut down individual boiler rooms and to implement measures to improve traffic.
- Improve the air quality management and monitoring network to achieve effective control and management of air quality in urban areas, zones and agglomerations.
- Afforestation actions are the best way to change the environment for the better.

The participants to the Conference, through their presentations and discussion, highlighted various aspects of air pollution related issues and proposed the possible solutions.

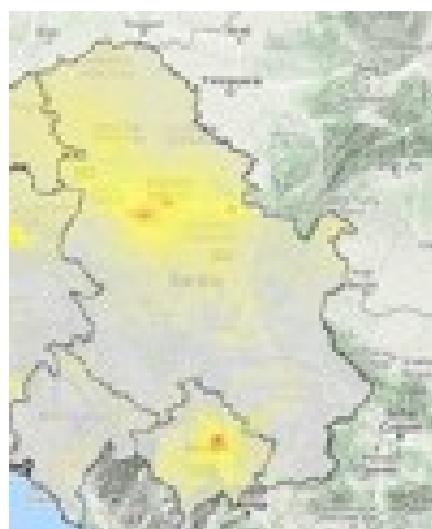
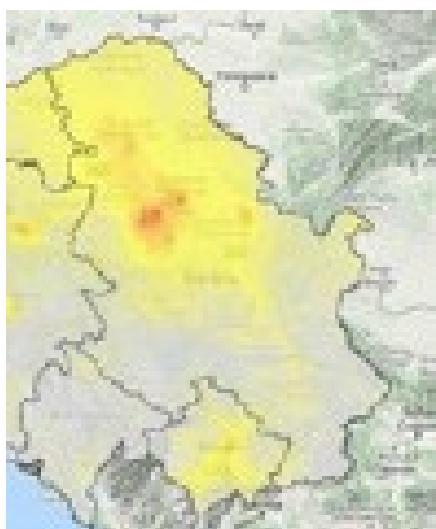
The roundtable was an opportunity for representatives of state institutions, local self-governments, civil sector, as well as for representatives of professional, consulting, educational and scientific institutions to highlight important issues, as well as the importance of raising the level of knowledge about how small changes in everyday life can reduce the burden of nature and environment pollution, but also the burden to health of present and future generations.

Today, more than one year after the Conference, we are fully aware of the importance of the aforementioned conclusions reached jointly by all stakeholders in order to contribute to solving the problem in the coming period.

6.1.1 2020 COVID-19 circumstances and air quality

In many ways the 2020 COVID-19 crisis is a unique learning experiment.

The lockdown and related measures implemented by many countries to stop the spread of COVID-19 have led to a sudden decrease in economic activities, including a drop-in road transport in many cities. To assess how this has affected concentrations of air pollution, the European Environmental Agency has developed a viewer that tracks the weekly and monthly average concentrations of nitrogen dioxide (NO_2) and particulate matter (PM10 and PM2.5). Also, different sources indicate that those living in more polluted areas are far more likely to die from coronavirus. Knowledge about COVID-19 will gradually improve the understanding of possible scenarios and countermeasures in Western Balkans and Serbia as well. For Serbia, the consequence of COVID-19 air quality changes does not provide a much different picture.. Some data for Serbia is presented below. But it seems that pollution may once again be on the rise and possibly air pollution is returning to pre-COVID-19 level.



2019, March 15 - April 30 2020, March 15 - April 30

Air Pollution Reductions due to COVID-19 Lockdown Mobility Restrictions observed through remote sensing approaches; Source: European Space Agency (ESA) data from Copernicus Sentinel-5P and World Bank analysis (May 2020).

Extract from Politika Daily interview with Francoise Jacob, UN Resident Coordinator in Serbia - COVID - 19 - A UN Perspective

Q: It seems to be the crucial moment to address climate change more decisively as they are interlinked on many levels with health and the emerge of the virus. However, there is a risk that countries, even the most developed ones, will abandon green programs in the fight for economic recovery. How can we prevent this?

A: The health of our planet plays an important role in the spread of COVID type diseases. The continued erosion of our ecosystems and excessive consumption have brought us uncomfortably close to "reservoir hosts". We need to invest in managing natural resources and land differently. We have seen amazing drops in air pollution and carbon emission around the world, in a record time. But COVID-19 does not provide a silver lining for the environment. Without fundamental shifts in global energy production, this temporary reduction in emissions would not translate into a sustained long-term trend. We cannot postpone climate action, because climate change is not on hold. 2020 remains critical for making progress on the climate emergency and halting biodiversity loss. The crisis is also a reminder that environmental pollution kills millions of people every year. **In Serbia, the most urgent need in that respect is to address the air pollution in large cities such as Belgrade, which peaked again in the early days of the epidemic. Awareness on climate change and pollution has grown around the world, so authorities and the private sector now have a fantastic opportunity to lead fundamental changes in how our economies are powered and shaped, how we rethink mobility in urban areas, and how we manage critical natural reserves such as the larger rivers crossing Serbia.**

Extract from an interview with Prof Dr Andjelka Mihajlov, Environmental Ambassador for Sustainable Development, Honorable President and Member of UNEP Network of Women Ministers and Leaders for the Environment (in 2002 as the Minister for the Protection of Natural Resources and Environment, and from 2004 until now as the Environmental Ambassador) on Serbia and some COVID-19 response

Q: How has Serbia been affected by and responded to COVID-19?

A: Europe became the epicenter of the pandemic on 13 March 2020. Just a few days before, on March 10, the Government of Serbia approved a Decision on declaring COVID-19 disease caused by SARS-CoV-2 virus a contagious disease, and imposed the related measures in accordance to the Law on contagious diseases, followed by a declaration of a State of Emergency on March 15, (a State of Emergency was released on May 6, but measures against spreading decease remained). It is difficult to state the extent to which the country is affected, when we know that as of 19 May 2020, 190,683 individuals were tested of which there have been 10733 confirmed cases, 4904 recoveries and - we are deeply saddened by the 234 deaths in Serbia. So far, the imposed measures flatter the epidemic curve. However, the SARS-CoV-2 pandemic is with an unprecedented scale and still uncertain consequences. This includes multi-dimensional consequences of lockdowns and after lockdowns of a number of people staying at home (age 65+ all the time) and social distancing, but also ongoing arguing on erosion/ violation of some human rights and the fragility of the rule of law. Response is still a challenging process (for example, 2020 Serbia Parliamentary Elections was relaunched for June 21 2020). I should mention that the most affected are medical workers and socially and economically marginalized people.

Q: Have you observed any problems regarding the protection of the environment during the COVID-19 pandemic in Serbia?

A: Yes. Unlike in a number of European Union countries (in Italy, NO₂ pollution, mainly from traffic fumes, has dropped sharply during the COVID-19 outbreak), NO₂ emission due to COVID-19 trends in Serbia, as a candidate country to EU membership, recorded just a small reduction in 2020 (leading

to the conclusion that the causes are different). The main sources of air pollution in Serbia include the energy sector (thermal power plants, district heating plants and individual household heating), the transport sector (an old vehicle fleet), waste dump sites and industrial activities (oil refineries, the chemical industry, mining and metal processing and the construction industry). Transparency on environmental related decisions during the national lockdown is very low. It is a realistic concern, that after a State of Emergency is released, the pollution will keep track and it will be "business as usual". Also to the citizens' disappointment the recent European Union Zagreb Declaration failed to address the environment and nature as key elements for building a stronger and sustainable future in candidate countries, although EU member countries have the European Green Deal policy in place. Although, in pre-COVID19 time, environmental issues were not among governmental priorities in Serbia, my concern is that there is a (high) chance that the crisis is/will be used as an argument to relax enforcement of environmental legislation.

Q: What was the response to the identified problem?

A: The crisis discourse was and is an opportunity for raising awareness on nature and pollution. However, the work, including NGOs work, has partially slowed down, and adaptation to the situation is mandatory. E-mail and Zoom world have become the only means of communication, limiting response to mainly letters and messages from civil society to decision makers, surveys, petitions and research. It is worth mentioning that this poses the big risk of shrinking space for civil society and CSOs are widely concerned about future funding.

Q: What are you doing to continue the work during the lock-down?

A: A group of NGOs urged the Government to postpone any decision making that is not immediately relevant to the health and safety of the people, for which meaningful transparency and participation cannot be secured.

Q: What message do you have for citizens, CSO community and Eco-schools network in Serbia, when it comes to the Nexus women-environmental protection-sustainable development during the time of COVID-19?

A: As uncertainty regarding the economic, environmental and social challenges facing citizens in Serbia continued to rise, lockdowns, social distancing and other restrictions have left 65+ age, women and girls vulnerable to a growing shadow pandemic of domestic and other types of violence and unemployment. Many people are losing jobs. Some research states, that the greatest burden but also the greatest risk during the COVID-19 crisis was borne by women: they accounted for as many as 86 percent of employees on the first line of infection. Increased workload in the household and care for family members also remained with women (in 70% of households), who performed these jobs predominantly even before the crisis. We have to fight for gender rights and recognition all the time. In my view, recommendation for post-pandemic Serbia development, should be lesson learned by flattening the epidemic curve, and switching from (high) speed economic development goals ("business as usual") to the (high) quality development, sustainable one. We have to fight for environment and low-carbon development, to be among country priorities. Momentum after the coronavirus pandemic in 2020 is a good moment not to remain deaf to the messages sent to us by the planet.

6.2 Position Paper on COVID-19 and waste management

The aim of this paper is twofold: 1. remind the decision-makers in the international treaties to which the state is a Party, and relate to the management of waste from health care facilities, and 2. raise attention to the practice of waste management in COVID-19 pandemic circumstances. This text is an indicative set of information, and is not designed to include a detailed and comprehensive analysis. References given in the context of the text can be used for deeper analysis and recommendations.

Introduction

On March 24, 2020, the United Nations Environment Programme, with the coronavirus disease (COVID-19) pandemic continuing to spread and its impacts upon human health and the economy intensifying day-by-day, urged

the governments to treat waste management, including medical, household and other hazardous waste, as an urgent and essential public service in order to minimize possible secondary impacts upon health and the environment. It is noted that unsound management of this waste could cause unforeseen "knock-on" effects on human health and the environment. There are two main routes of transmission of the COVID-19 virus: respiratory and contact. Respiratory droplets are generated when an infected person coughs or sneezes. Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission (contact transmission). A recent review of the survival of human coronaviruses on surfaces found large variability, ranging from 2 hours to 9 days, where virus particles can be picked up and transferred to the nose, eyes and mouth.

6.2.1 Waste from health care facilities

Health care waste falls under different categories: hazardous waste (infectious waste, sharps waste, pathological waste, pharmaceutical plus cytotoxic waste, chemical waste, radioactive waste) and non-hazardous or general health-care waste. The World Health Organization (WHO) document (2017) highlights the key aspects of safe health-care waste management in order to guide policy-makers, practitioners and facility managers to improve such services in health-care facilities (including disposal options in emergency situations). As underlined, ideally, all health-care waste management practices seek to implement environmentally sound management of hazardous waste or other waste, best environmental practices and best available techniques in accordance with the Basel and Stockholm conventions and relevant national regulations and requirements. It is also important to ensure wastewater from the health-care facility is safely managed throughout containment, collection, transport, treatment and disposal. Waste generated during the health care of suspected and confirmed case of COVID-19 should be disposed of as hazardous infectious waste; staff should be trained in the correct procedures for waste handling; segregation of waste as hazardous and non-hazardous waste should occur at the point of waste generation; appropriate hand hygiene measures should practice to protect people against infections, including COVID-19. On March 19, 2020 the World Health Organization provided some Guidancee on water, sanitation

and health care waste which is relevant for viruses (including coronaviruses). This Technical Brief is written in particular for water and sanitation practitioners and providers. All who handle health care waste should wear appropriate personal protective equipment (boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and perform hand hygiene after removing it. Serbia is a Party of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal from year 2000. Serbia also ratified the Amendment to the Basel Convention in 2002 (entering in force in 2019), and plastic waste amendments are effective from March 2020. The UN Basel Convention's Technical Guidelines on the Environmentally Sound Management of Biomedical and Healthcare Wastes, includes information and practical aspects of waste management useful for authorities seeking to minimize hazards to human health and the environment. It is also useful to consult the latest information related environmental management of medical waste caused by COVID-19 in China, for example. The focal point for the Convention implementation is in the Ministry in charge of Environment.

Serbia is also a Party of the Stockholm Convention on Persistent Organic Pollutants (POPs). It was signed in 2002 and ratified in 2009; also, Serbia from 2010 to 2018 is affected by Amendments to Annexes to the Stockholm Convention. The Stockholm Convention National focal point is in the Ministry in charge of Environment.

6.2.2 Household waste management in COVID-19 pandemic circumstances

The safe management of household waste is likely to be critical during the COVID-19 emergency. The COVID-19 pandemic raises questions and brings in challenges regarding municipal waste management practices and procedures (safety and health measures for employees, waste treatment requirements, general procedures due to coronavirus for waste sector). Medical waste such as contaminated masks, gloves, used or expired medicines, and other items can easily become mixed with domestic garbage, but should be treated as hazardous waste and disposed of separately. These should be separately stored from other household waste streams and collected by specialist municipality or waste management operators. Parties to the Basel Convention are currently working on a guidance document for

soundly managing household waste and whilst not yet finalized, an initial draft may be consulted for provisional guidance.

Waste collection workers should be protected, as they are one of the most vulnerable parts of the population since they are already exposed in several health risks, including infections. Waste collection workers is the second most important human shield to coronavirus, after the health workers; among other measures, direct contact (without gloves) with bins or bags should be avoided in any case and drivers and collectors should avoid contact with residents and employees from serviced business.

A summary of the observed trends regarding municipal waste management during the COVID-19 crisis in March 2020 is prepared and graphically presented by the Association of Cities and Regions for Sustainable Resource Management. The International Solid Waste Association distributed the video on how to dispose of healthcare waste in landfills.

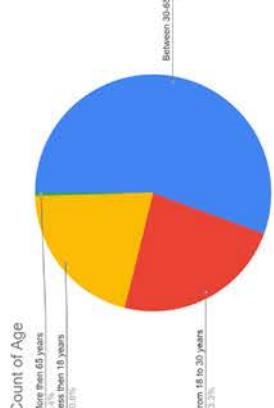
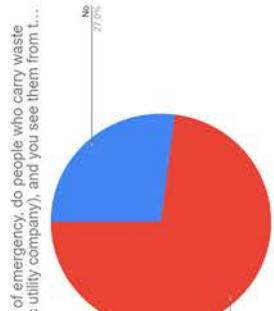
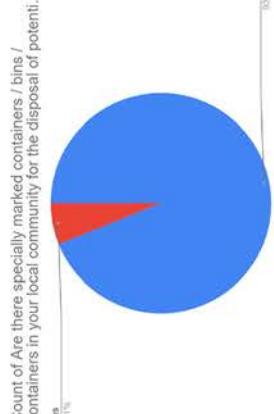
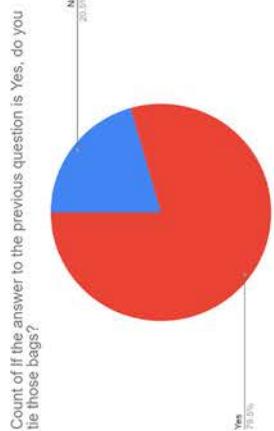
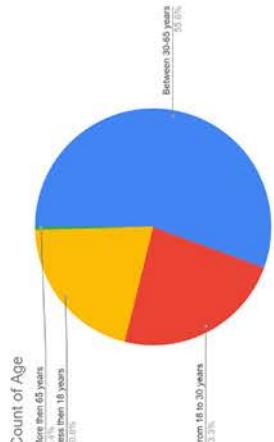
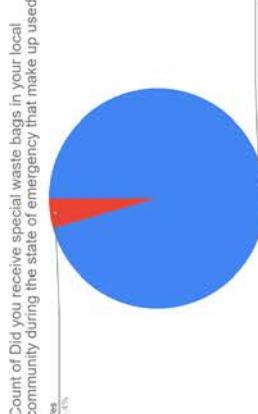
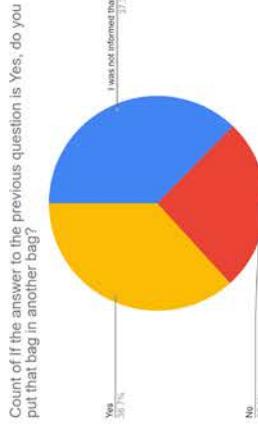
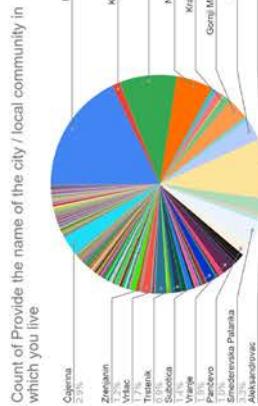
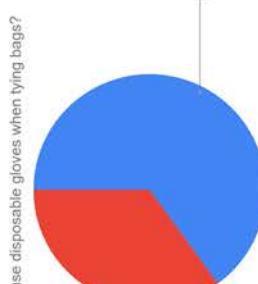
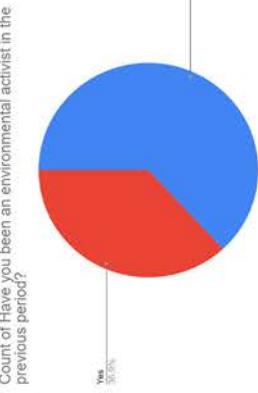
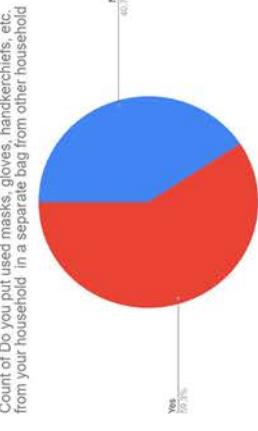
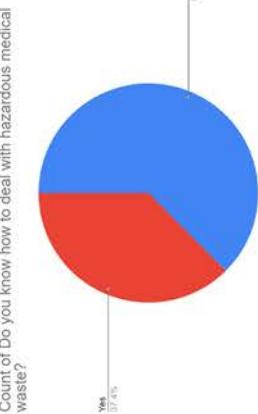
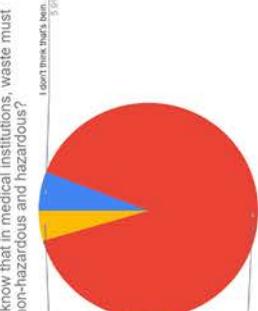
, It should be noted that, in Serbia no regular collection system for hazardous waste from households has been established until now. During the state of emergency (declared on the territory of the Republic of Serbia on 16 March 2020), in addition to regular waste collection and cleaning activities, the City of Belgrade Public Utility Company regularly washed waste disposal containers/bins using a chlorine- based disinfectant prescribed by the World Health Organization as a measure to prevent the spread of COVID-19. They requested from all citizens to dispose waste properly and only in places designated for this, in order to avoid formation of "wild"/ non-sanitary landfills, and to enable all the emergency teams to effectively maintain hygiene in the city of Belgrade. Citizens are reminded to close the containers after disposing of waste so that it does not fall off onto public areas and use foot slippers to avoid contact with the container. It is expected that this is followed in the other local communities.

6.2.3 EASD COVID19 response

EASD took a position that it is important to raise awareness and call for a few but important measures touching upon:

1. security of workers and work continuation in waste management (including transport) (fb <https://www.facebook.com/ambasadori.odrzivog.razvoja/> and <https://www.facebook.com/groups/EcoSchoolsSerbia/> awareness posted on March 19. 2020);
2. Launch and run “EASD e-awareness raising campaign: attention to environmentally and health friendly waste management in corona virus pandemic related situation” (using web blog <http://ambassadors-env.com/blog/2020/03/28/aor-e-kampanja-pozornosti-u-uslovima-vanrednog-stanja-zbog-covid19-virusa-treba-sa-otpadom-bezbedno-i-pravilno-postupati/>, and fb noted above, posted on March 28, 2020. EASD developed and shared instructions on how to deal with household waste in the wake of COVID-19 circumstances;
3. The above-mentioned campaign includes “EASD Survey: Signals on waste care in practice” https://docs.google.com/forms/d/e/1FAIpQLScQg9ebPf5ob5VsjC0m-8yIFIR4_6w5GQnrvNRJvbPo2Z14Ew/ viewform , posted on April 7, 2020.

Snapshots from a survey with 1,913 participants are presented below:



Lessons to be learned

Environmental Ambassadors for Sustainable Development, an ECOSOC consultative organization from Serbia, immediately, after the state of emergency was declared, started an e-awareness raising campaign: attention to environmentally and health friendly waste management in corona virus pandemic related situation. As a part of e-awareness raising campaign, a survey was conducted – with 1,913 responders (about 37% were environmental activists in pre -Covid-19 time; about 18% from Belgrade, the rest from all parts of Serbia; The Eco-Schools Network was especially active). Some outreach results to share: 73% think and see that waste collectors (from a local public utility company), in a state of emergency, wear protective gloves and masks; on the other hand, citizens seem responsible, and about 60% of them put used masks and gloves in a separate bag and finally in the bag for household waste.

07. Turkey

7.1 Hydropower Development in Turkey: Impacts, Risks, and Vulnerabilities

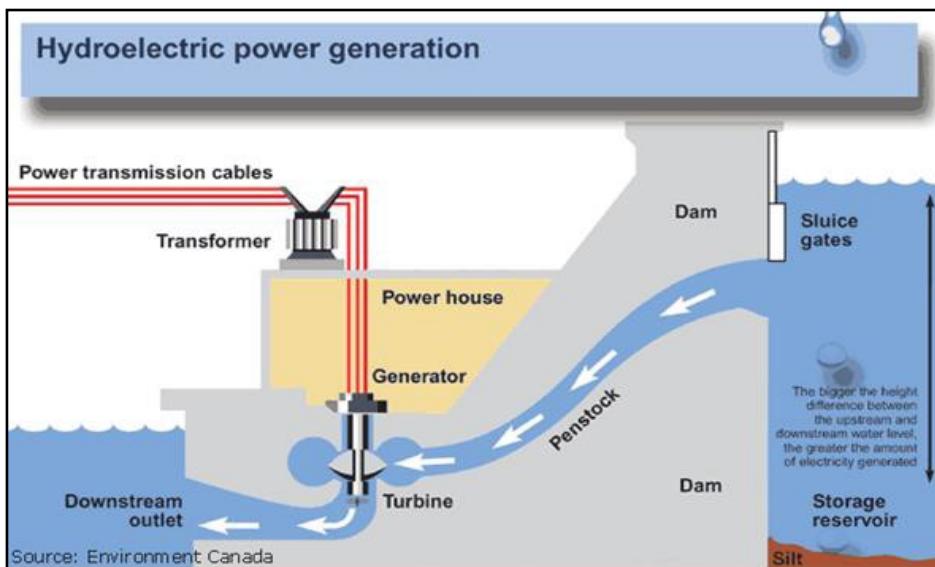
7.1.1 A brief introduction to hydropower energy

Energy remains one of the most critical economic, environmental, and development issues that the world faces today. It is estimated that approximately 1.06 billion people (13 percent) worldwide, largely rural communities, still do not have access to electricity. Considering electricity is fundamental for everyday activities, access to reliable and affordable electricity has an immediate and transformative influence on the quality of life, access to basic services like education, and livelihoods. The sustainability of energy has become crucial and more visible. Since globalization, the energy demand has also increased as a result of population growth and rapid industrialization.

Traditional fossil fuel has played an important role in generating power and electricity in the last century. However, the increasing energy demand and the pollution associated with the coal-fired power plants are so critical that great efforts have been put forward to seek alternative energy resources.

Particularly in recent years, the energy obtained from fossil fuels has caused serious damage to the environment and disrupted the balance of the ecosystem. This called for new and less harmful energy sources in addition to or as alternatives to existing ones.

Hydropower, also called hydroelectric power or hydroelectricity, is a form of energy that harnesses the power of water in motion—such as water flowing over a waterfall—to generate electricity (see Figure 1). Further, hydropower energy is established as an energy source that operates with minimal pollution compared to fossil fuels, has relatively low operation and maintenance cost, and is a major tool in reducing greenhouse gas emissions. Therefore, across the globe, hydropower has been seen as a green and clean energy option. Currently, it is the most widely-used renewable source of energy, as it represents about 17% of total energy production with worldwide installed capacity now above 1,250 gigawatts (GW).³⁰



The generation of hydroelectric power by a typical hydropower plant³¹

³⁰ <https://www.hydروpower.org/blog/blog-hydروpower-growth-and-development-through-the-decades>

³¹ This figure is retrieved from Grafman, L. (2017). Hydropower. Retrieved 10 November 2020, from <https://www.appropedia.org/Hydropower>

Today in Turkey, the hydropower capacity has risen by 145 MW and currently stands at 31% of total national capacity at the end of 2019, as stated in the 2020 Hydropower Status Report.³² Among various constructions, the Ilisu Dam marked a turning point in 2020 with the first water fill into its huge reservoir. Upon completion, its 1,200 MW hydropower plant will be the fourth largest in the country. However, this created a call from various scientists and NGOs for the environmental and social impacts of hydropower.

Therefore, the here-presented report aims to analyze the impacts, risks and vulnerabilities created by hydropower development in Turkey. It will do so by first examining the hydropower development in Turkey from a historical perspective, then it will present the environmental and social impacts including but not limited to environmental degradation and increased risk of flooding, water insecurity, gender and livelihoods, and the cultural aspect of the impacts.

7.1.2 Hydropower development in Turkey

Due to its geography, Turkey is a high-altitude country with over 25 river basins, including the trans-boundary Tigris and Euphrates Rivers (see Figure 3). Being a potential candidate to the EU, Turkey has confirmed its electricity infrastructure with Europe's, while also pursuing a strategy of overall energy diversification, including the development of all types of renewable energy. Today, Turkey is standing as one of Europe's leading markets for future hydropower development due to the combination of the country's abundant resources, the supportive government, and the approving policy framework.

³² IHA (2020) Hydropower Status Report 2020: Sector Trends and insights. Retrieved from https://www.hydروpower.org/sites/default/files/publications-docs/2020_hydropower_status_report.pdf



Turkey's basins³³

The hydropower projects in Turkey are associated with the generation of electrical power, which can both assist the sustainable economic development and increase the quality of life. Further, the projects are labor-intensive during construction, as well as provide employment opportunities.³⁴ Another reason to favor exploiting water resources is about its established perception as mentioned above. Since it is accepted as a renewable, clean, and green energy source, it is less harmful than fossil fuel sources causing dangerous gas emissions. With the considerable contribution of few organizations such as DSI and others, hydropower development in Turkey has been carried out for about a century for different purposes, namely electricity generation, irrigation of regional lands, water supply for domestic and industrial utilization, and flood control in the surrounding area.³⁵

In examining the rapid expansion of hydropower development in Turkey, government regulations play a crucial role. The monopoly of the public sector on electricity generation was abolished in 1982 and the private sector was

³³ FAO (2016) Water along the Food Chain: Turkey. ISBN 978-92-5-109360-3

³⁴ Yuksel I. (2008) Hydropower in Turkey for a clean and sustainable energy future. Renewable and Sustainable Energy Reviews.12

³⁵ Dursun B. & Gokcol C. (2011) The role of hydroelectric power and contribution of small hydropower plants for sustainable development in Turkey. Renewable Energy, V.36/ 4 <https://doi.org/10.1016/j.renene.2010.10.001>

allowed to build power plants and sell their electricity to the Turkish Electricity Administration. The first law setting up a framework for privatization in the electricity industry was enacted in 1984 by Law No. 3096. This Law originates the legal basis for privatization through Build Operate and Transfer (BOT) contracts for new generation facilities. Another law, namely the Build Operate and Own (BOO) Law (No. 4283), for private sector involvement in the construction and operation of new hydropower plants was also enacted in 1997 again with guarantees provided by the Treasury.

The government and business sector view this privatization as a progressive solution to Turkey's energy deficit securing its geopolitical position as an energy corridor between Europe and Asia. In line with EU ideals on renewable energy as an alternative to natural gas and fossil fuel, the Turkish government has initiated a reform package to promote electricity generation from renewable energy sources, and hydropower is considered a crucial source of energy production. There are, however, opposition groups who consist of affected rural communities, environmental groups and political groups and are critical of current Turkish hydropower practices. Considering more than 10,000 km of Turkish rivers are being diverted into hydraulic structures used for electricity production as a result of these policies, the critics are addressing that if not designed properly, both the construction of the plants and the diversion of surface water can have a destructive impact that leads to forest destruction, loss of biodiversity and loss of livelihoods.³⁶

The main state actors in this process are the Energy Market Regulatory Authority (EMRA) and the DSI. The role of the DSI is to examine the feasibility of hydropower projects and sign a contract with the company. After the approval of related environmental impact assessment by the MoEU, EMRA grants a license to the company obliging the responsibility of the hydropower plants. Particularly the control of use and access to rivers for 49 years raises issues of accountability, responsibility, and intergenerational justice. Even though the Environmental Impact Assessments (EIA) are taking place, the

³⁶ IPCC (2011). Hydropower. In Edenhofer, O.; Pichs-Madruga, R.; Sokona, Y.; Seyboth, K.; Matschoss, P.; Kadner, S.; Zwickel, T.; Eickemeier, P.; Hansen, G.; Schlömer, S. and von Stechow, C. (Eds), Special report on renewable energy sources and climate change mitigation, pp. 437-495. Cambridge, United Kingdom; New York, NY, USA: Cambridge University Press.

accountability and the transparency of the system are still in question. The lack of competent monitoring by the state enables the private sector to implement environmentally and socially destructive projects.³⁷

There are still problems regarding the lack of planning and lack of criteria for selecting the plant site. Even though they are considered as clean energy and nature friendly when more than 10 Hydro Electric Power Plant built on one single river may cause as much as or more environmental problems than fossil fuel energy sources. Therefore, renewable energy needs to be planned carefully by considering both efficiency and its socio-environmental effects.

7.1.3 Impacts, risks, and vulnerabilities

This section will examine the impacts of hydropower development on the environment and society in Turkey. It has been acknowledged that the findings are including but not limited to the increased risk of flooding, water scarcity, gender and livelihood, and changes in cultural life.

7.1.4 Environmental degradation and increased risk of flooding in Turkey

Even though the hydropower plants are also used for preventing floods, the findings make this established benefit questionable in the context of Turkey. Particularly in the construction phase of hydroelectric power plants (HEPPs), large environmental damage that affects the severity of natural disasters including floods needs to be mentioned. We can specify these damages as serious deterioration of the morphological structures of the streams and crucial changes in their natural flow due to exposure to destruction,³⁸ especially on steep slopes, when the excavation formed in the construction of transmission lines is poured into the stream bed. The plants in the development period are damaged and deforestation increases. Therefore, changes in the morphology of stream beds alongside its effect on biodiversity development changes the habitat.³⁹

³⁷ Islar, Mine. (2012). Privatised Hydropower Development in Turkey: A Case of Water Grabbing? Water Alternatives. 5.

³⁸ Department of Economic and Social Affairs, (2003). Water for People, Water for Life.

³⁹ Ulgen, H., Alp, E., Zeydanli, U., Kurt, B., Balkiz, O., (2011). Report on the Ecological Impacts of Small Hydropower Plants in Turkey and Recommendations to The Gold Standard Foundation. Nature Conservation Centre.

Damage does not come only from the construction phase but also the running process of HEPPs. After HEPPs use the water in the streambed on the river, we can say that the water is significantly reduced in the parts between the HEPP and the regulators. Since HEPPs use most of the water in rivers, the flow rate, depth of the river, and bottom structure vary greatly.⁴⁰

It is a fact that the vegetation of rivers serves as a control mechanism for floods.⁴¹ Therefore, this above-described destructive situation on the river habitat caused by HEPPs puts regions at flood risk along with other natural disasters. Figure 1 shows the distribution of floods over the years, and Figure 2 shows the increase in hydropower production in Turkey over the years. The government acts towards reaching all potential of rivers and HEPPs also to increase the share of renewable energy sources.⁴² However, Turkey's approach that recognizes rivers only as a "resource" is catastrophic.

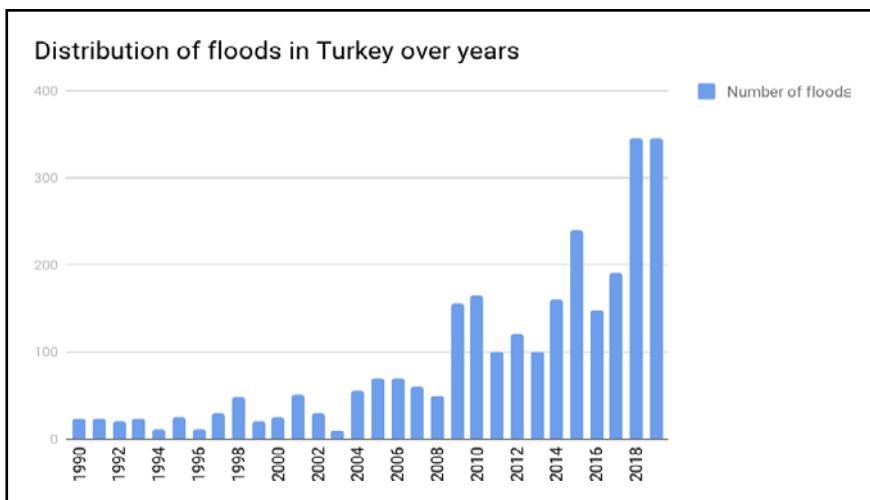
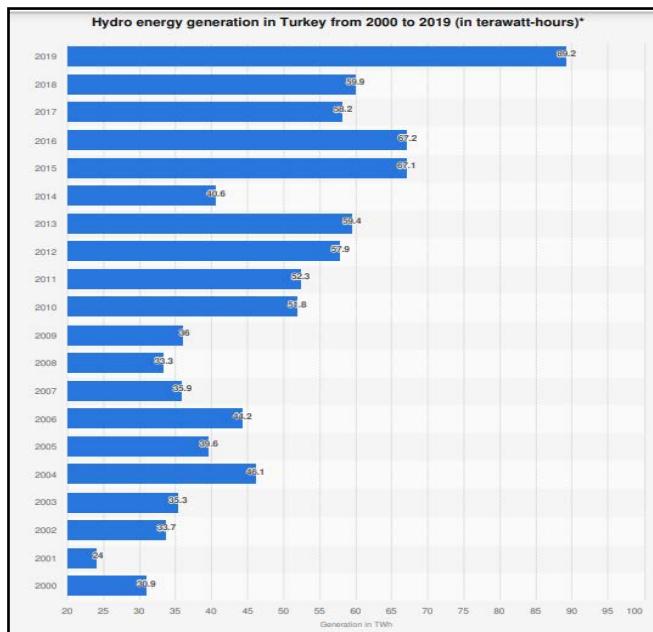
Distribution of Floods in Turkey over years⁴³

⁴⁰ Ulker, O. & Cobanoglu, N. (2012). Türkiye'de Hidroelektrik Santrallerin Durumu ve Çevre Politikaları Bağlamında Değerlendirilmesi. Ankara Üniversitesi Sosyal Bilimler Dergisi, 3(2), 65-88.

⁴¹ ibid

⁴² Gokdemir, M., Komurcu, M. I., & Evcimen, T. U. (2012), Türkiye'de Hidroelektrik Enerji ve HES Uygulamalarına Genel Bakış, Türkiye Mühendislik Haberleri Dergisi, (471), 18-26.

⁴³ The graph is retrieved based on the information in the natural disaster assessment of 2019 published by the Turkish Government. See, MGM. (2020). 2019 Yılı Meteorolojik Afetler Değerlendirmesi. Ankara: T.C. Tarım ve Orman Bakanlığı. Retrieved from <https://www.mgm.gov.tr/FILES/genel/kitaplar/2019MeteorolojikAfetlerDegerlendirmesi.pdf>



Hydropower production in Turkey between 2000-2019⁴⁴

⁴⁴ Statista, 2020. Turkey: Hydro energy generation 2019. Retrieved from: <https://www.statista.com/statistics/893633/hydro-energy-generation-turkey/>

For instance, the Black Sea region is known as the favorable site of HEPPs in Turkey due to the government's initiatives there.⁴⁵ In Giresun only, there are 38 active HEPPs that have a total energy power of 850 MW. And among these plants, some are with a capacity higher than 100 MW such as dam plants, and others have a capacity under 3-4 MW such as run-of-rivers plants. Even now, while we are discussing the issue, the construction of 9 other HEPPs with a capacity of 140 MW is underway in Giresun, and numerous plants are in the phase of project design and licensing.⁴⁶

The case of Giresun flooding that recently happened can be given as an example. The Dereli district was the most affected area by the flood that occurred, on 22 August 2020. While the officials blame global warming and climate change only, the number of HEPPs that exist on the river could give the exact answer. Aksu River is the main river of Giresun and runs directly towards the Dereli district. On Aksu River, there are 6 HEPPs that have a total energy capacity of 172 MW. And the investments for a seventh HEPP are continuing.⁴⁷ Considering the above-presented effects of HEPPs on the natural cycle of climate, it is evident that those 7 different plants on the short 72 km river have had destructive impacts on forests, pasture areas as well as soil texture. If one restrains the water in 7 different spots on a river to produce energy and continuously build power plants, the inevitable effects of it on flora and fauna makes natural disasters predictable eventually.

The systematic destruction of nature caused by HEPPs and their impact on floods in Turkey is evident and can be analyzed together (See Figure 1 and Figure 2). As the HEPPs are expanding in the region, the number of floods is also increasing dramatically in those years. Even though this report is aware of the impacts of climate change on natural disasters, it strongly argues that HEPPs' role is undeniable.

⁴⁵ Yaman, M , Haşıl, F . (2018). Türkiyedeki Hidroelektrik Santrali (HES) Uygulamalarına Çevre Açısından Bakış.Uluslararası Afro-Avrasya Araştırmaları Dergisi , 3 (5) , 145-156 . Retrieved from <https://dergipark.org.tr/tr/pub/ijar/issue/34778/384934>

⁴⁶ CHP. (2020). Türkiye'de HES Gerçekliği ve Giresun Sel Felaketi (pp. 1-10). Enerji ve Altyapı Projeleri Genel Başkan Yardımcılığı. Retrieved from <https://chp.azureedge.net/d68d0f33f753445f912db7b90de9d306.pdf>

⁴⁷ ibid

7.1.5 Water insecurity, gender and livelihoods

Water connects food production and its security. Hydropower plants are built for different purposes in the regions, but each plant, large dams in particular, has massive impacts on Turkey's agriculture and natural resources upon which thousands of millions depend on. The primary effect of plants across the river is the changing water flow. They impact water quality by raising the rate of sedimentation and saltiness in the water. It has been stated in the literature that large plants across rivers blockade a huge amount of sediment load which is vital for fisheries and agricultural production in Turkey. This results in water insecurity and droughts and loss of livelihoods.⁴⁸ Considering Turkey is a significant producer and exporter of agricultural commodities on global markets and is estimated to be the world's 7th largest agricultural producer, loss of livelihoods carries a critical importance. Particularly, the country is expected to be a top producer and exporter of crops ranging from hazelnuts and chestnuts to apricots, cherries, figs, olives, quinces, tobacco, and tea, which are water-dependent.⁴⁹

Hydropower plants, particularly large ones, cause enormous environmental damages to water security. We can specify these damages as the deterioration of the morphological structures of the streams and crucial changes in the river's natural flow. The plants in the development period are damaged and deforestation is increased. Therefore, changes in the morphology of stream beds alongside its effect on biodiversity.

According to the various sources including the FAO country report⁵⁰ and the scientific literature, water insecurity is proved to be extremely harmful to the ones engaged in agriculture the most, particularly women. Considering most of the women rely on agriculture, and they play a vital role particularly in the

⁴⁸ World Commission on Dams (2000). *Dams and Development: A New Framework for Decision-Making*. The Report of the World Commission on Dams, November, London and Sterling, VA: Earthscan <https://doi.org/10.4324/9781315541518>

⁴⁹ FAO. (2020). Turkey at a glance. Retrieved 10 November 2020, from <http://www.fao.org/turkey/fao-in-turkey/turkey-at-a-glance/en/>

⁵⁰ ibid

rural areas of Turkey in contributing to agricultural activities in addition to household duties, the sociological impacts of water insecurity are inevitable.

Water insecurity negatively affects women's income and their economic situation along with their caring obligations. Many studies and reports concluded that women are the ones that the community recognizes as responsible for ensuring food and water security in Turkey.⁵¹ Even during droughts and water scarcity, they are expected to manage a household budget and procure water for family members. It increases their burden as they have to deal with their families' well-being in the context of scarcity and loss of agricultural income. Also, health problems due to water insecurity may occur in households among the family members. As their perceived role of taking care of family, the burden of women increases and is distributed unequally. Overall, women's dependency on the head of the household increases while their ability to bargain decreases.^{52 53}.

7.1.6 Impacts on cultural and spiritual life

The relation between hydropower development and cultural change is a topic that has been overlooked by researchers, development practitioners, and governments. The here-presented case of Turkey is not an exception in this discussion. When discussing individuals' overall well-being, livelihoods are seen as the crucial aspect of life, particularly for women.⁵⁴ However, there are also other factors that are non-economic such as spirituality. In the context of hydropower plants built across Turkey, economic livelihoods are interlinked with women's perception of the meaning of life, culture, and

⁵¹ Yavuz S. & Sendeniz O. (2013). HES Direnişlerinde Kadınların Deneyimleri: Fındıklı Örneği, Fe Dergi 5/ 1 43-58.

⁵² Socheata, S.(2020). Women, rivers and water: a closely connected theme. Retrieved from <https://e.vnexpress.net/news/perspectives/women-rivers-and-water-a-closely-connected-theme- 4069965.htm>

⁵³ Simon, M. (2013) Balancing the Scales: Using Gender Impact Assessment in Hydropower Development, Melbourne. Oxfam Australia and CPWF.

⁵⁴ Socheata, S. (2020). Women, rivers and water: a closely connected theme. Retrieved from <https://e.vnexpress.net/news/perspectives/women-rivers-and-water-a-closely-connected-theme- 4069965.htm>

religion. Therefore, the traditional bond between the rivers and the rural population needs recognition while analyzing HEPPs' impacts.

Studies found that many rural women in Turkey associate themselves with the river flow. According to them, rivers are perceived as a living body that involves living values for local people. For instance, during the hydropower protests in the Black Sea Region of Turkey, women often use the phrase "The river is my husband, my life, my childhood".⁵⁵ Therefore, as hydropower plants enter the area, this causes the 'death of the river' and significant spiritual loss for communities. Further, the construction phase of HEPPs has resulted in the collapse of traditional human-nature relationships. This weakens the rural population's knowledge and cultural value.

Conclusions and further recommendations

As this report highlights, even though hydropower is established as clean and green energy across the globe, it has extensive drawbacks and impacts as mentioned above. Even though this report stresses that the visible impacts are on environmental degradation, water scarcity, loss of livelihoods, and gendered dimension, it should be acknowledged that the impacts are not limited to these aspects.

In the environmental and flooding aspect, there is no doubt changing climate affects the risks of natural disasters. However, research shows that climate change effects have not yet had a significant impact on environmental damages in the regions of Turkey. It is also concluded that the most important factors are wrong and illegal land use, deforestation, and damaging the natural habitat by human factors.⁵⁶

Further, Turkey's approach to disaster risk management needs awareness and change towards acknowledging the environmental impacts of increased production of HEPPs rather than only focusing on the effects of climate

⁵⁵ Yaka, Özge. (2017). A feminist-phenomenology of women's activism against hydropower plants in Turkey's Eastern Black Sea region. *Gender, Place & Culture*. 24. 1-21. DOI: 10.1080/0966369X.2017.1340873.

⁵⁶ Yuksek, O, Kankal, M & Ucuncu, O. (2012). Assessment of big floods in the Eastern Black Sea Basin of Turkey. *Environmental monitoring and assessment*. 185. 10.1007/s10661-012-2592-2.

change. Even in the Official Disaster Management and Strategic Plan for the years 2019-2023 published by the Ministry of Domestic Affairs, the HEPPs are not mentioned.⁵⁷ The government needs to adopt an extensive perspective that includes comprehending the negative impacts of hydropower plants on natural disasters and balancing the needs of natural habitats, so that the analytic solutions to overcome the potential risks of natural disasters can be implemented.

It is also concluded that although small-scale hydropower plants are expected to have a relatively low environmental impact, there is considerable destruction of forest and loss of biodiversity due to the multiple plants, water transfers and the construction stage. Considering that companies are not required to obtain EIAs for hydropower plants below 10MW, the existence of an effective control mechanism is deemed critical and needs to be developed. In addition, EIAs also need to be transformed into a transparent and inclusive process, which includes the local community of the selected sites. Furthermore, these problems seem to be exacerbated by the fact that there have also been discrepancies between the decisions given by the MoEU regarding EIAs, and independent reports prepared by civil society and universities.

By stating that the local population and women, in particular, are not included in decision-making processes and the impacts on them are ignored, previous chapters highlight the emergence of gender inclusion in hydropower discussions which is something currently missed. Considering the effects of hydropower dams primarily affect the lives of women and the vulnerable groups where men are likely to capture most of the benefits,⁵⁸ recognition of gender issues in the implementation of hydropower dams is also essential for their sustainability.

⁵⁷ For more information on the report, see AFAD. (2019). Stratejik Plan 2019-2023. Ankara: T.C. İçişleri Bakanlığı Afet ve Acil Durum Yönetimi Başkanlığı. Retrieved from https://www.afad.gov.tr/kurumlar/afad.gov.tr/e_Kutuphane/Planlar/AFAD-2019_2023-STRATEJIK-PLAN.pdf

⁵⁸ Department of Electricity Development, (2005). Addressing Gender Issues a Manual, p. 1, Retrieved from <http://www.doeed.gov.np/documents/Manual-for-Addressing-Gender-Issues.pdf>

Gender Impact Assessment (GIA)⁵⁹ developed by Oxfam in 2013 allows stakeholders and decision-makers in a hydropower dam project to comprehend the impacts of a planned project. It applies gender criteria to notify about the possible and realized impacts. GIA acts as a guide in providing tools and supports stakeholders and project developers interested in the infrastructure of hydropower dams. With the aid of the support provided, the decision-makers understand and address the gender impacts of hydropower dams at various phases of river basins and planning and implementation. It should be included in the early stages of hydropower plants as part of stakeholder engagement in strategic location planning. It helps strategies to acknowledge the differentiated needs and interests of women and men in the region before the implementation. Accordingly, it includes tools to assess gender relations.

Further, the guidance also suggests including women in the decision-making processes of planning and implementation of a hydropower plant. In aid of that, avoiding negative gendered impacts becomes one of the critical decision criteria to assess the viability and sustainability of the hydropower plants. By strengthening the legal framework of hydropower development, the impacts of HEPPs can be mitigated, and the sustainability of the development can be increased.

⁵⁹ Simon, M. (2013) Balancing the Scales: Using Gender Impact Assessment in Hydropower Development, Melbourne. Oxfam Australia and CPWF. Retrieved from https://oi-files-cng-prod.s3.amazonaws.com/asia.oxfam.org/s3fs-public/file_attachments/GIA%20MANUAL%20EN.pdf