

Bosnia and Herzegovina

Environmental Performance Reviews



Third Review – Highlights



Legal, policy and institutional framework

The Stabilization and Association Agreement (SAA) has been in force since June 2015. According to the SAA, the association shall be progressively and fully realized over a transitional period of six years. Since 2011 Bosnia and Herzegovina has made some efforts to transpose the European Union (EU) environmental acquis into the national legislation; however, the country is still at an early stage in these efforts.

In terms of implementation steps for the 2003 Law on Environmental Protection of the Federation of Bosnia and Herzegovina since 2011, the major focus has been to make the environmental permitting system work. All new installations receive environmental permits and go through an environmental impact assessment (EIA), when required, before receiving an environmental permit. However, still, not all operators of existing installations have applied for environmental permits.

A new Law on Environmental Protection of Republika Srpska was adopted in 2012. In 2015, its provisions on EIA and environmental permits were amended. The main improvements are related to strategic environmental assessment (SEA), which is now covered by a dedicated chapter, more elaborated provisions on environmental permits and eco-labelling, and provisions on access to environmental information and public participation. Nevertheless, challenges remain for the implementation of provisions on SEA, EIA, environmental permits and eco-labelling.

There is a Law on Genetically Modified Organisms (GMO) at the state level. The country claims not to produce any GMO food or feed. The country allows imports of genetically-modified food and feed upon authorization. Republika Srpska has a Law on Genetically Modified Organisms accompanied by subsidiary legislation. There is no separate legislation on GMOs in the Federation of Bosnia and Herzegovina or in Brčko District.

The pollution release and transfer register legislation was adopted in 2007 in the Federation of Bosnia and Herzegovina and Republika Srpska. An EU-funded project provided the database, the training and the server for the PRTR. However, after the project ended, the web page disappeared and the register was left to the Ministry of Foreign Trade and Economic Relations. The Ministry of Foreign Trade and Economic Relations did not have the capacity and handed over the equipment to the Ministry of Environment and Tourism of the Federation of Bosnia and Herzegovina, which currently maintains the part of the database related to the Federation of Bosnia and Herzegovina.

The Criminal Codes of the Federation of Bosnia and Herzegovina, Republika Srpska and Brčko District include articles on environmental crimes. These articles differ in the three Criminal Codes and do not cover the whole spectrum of offences as provided in the EU Directive 2008/99/EC on the protection of the environment through criminal law.

The Environmental Protection Strategy of the Federation of Bosnia and Herzegovina for the period 2008–2018 provides for strategic directions and measures in the legal and institutional field and covers the use of economic instruments, nature protection, land protection, air protection and waste management. As of early 2017, about half its measures are not implemented and remain relevant.



In the Federation of Bosnia and Herzegovina, SEA remains a novelty, although the requirement of SEA was first introduced in 2003. Only three SEAs were conducted in 2015–2016. Sectoral ministries do not initiate SEAs for their draft strategic documents because there is no subsidiary legislation that would tell them how to do it. Active promotion of the SEA instrument has not been a priority for the Ministry of Environment and Tourism of the Federation of Bosnia and Herzegovina.

In Republika Srpska five SEAs were processed in 2015 and three in 2016. A major criticism is of the quality of public participation as part of the SEA procedure.

In Brčko District, no SEA has ever been done. There are plans to do an SEA for the new spatial plan of Brčko District to be prepared for the period 2017–2027.

Recommended measures*:

- **Ensure that the Sustainable Development Goals are integrated into future planning documents;**
- **Enable active use of the SEA instrument;**
- **Share knowledge and information on the integration of environmental requirements into sectoral policies and legislation;**
- **Establish schemes of training and in-service training on environmental issues for civil servants in sectoral ministries;**
- **Formalize the framework for implementation of international agreements and other international obligations of Bosnia and Herzegovina related to the environment.**

* Note: The sections entitled “Recommended measures” represent an abridged version of selected recommendations from the EPR report and are provided for information purposes only. Please consult the text of the report for the full text of recommendations as adopted by the United Nations Economic Commission for Europe (UNECE) Committee on Environmental Policy.



Regulatory and compliance assurance instruments

The entity-level laws on environmental protection stipulate the requirement for EIA and SEA as prerequisites for the granting of operating permits to large-scale projects with significant environmental impact. However, there are no specific regulations on EIA and SEA that establish the direct links between the permitting and environmental assessment, either at project level (EIA) or spatial planning and sectoral plan level (SEA).

Both entities and Brčko District provide for both accomplice liability and liability of legal persons, as required by the EU Directive 2008/99/EC on the protection of the environment through criminal law. However, the legal provisions on who can initiate court proceedings for damage caused to the environment, how proceedings can be initiated, what represents such damage, how liability for such damage is determined, who is paid for such damage, and how such damage is repaired, are insufficiently specific, not precise and clear, and incomplete.

Integrated permits, such as are regulated by the EU Directive 2010/75/EU on industrial emissions (IPPC Directive), have not yet been issued in Bosnia and Herzegovina, since the Directive has not yet been fully transposed. Thus, an operator of an installation having multiple environmental impacts, for example, on air, water and generation of waste, would need to apply for multiple individual permits from different ministries.

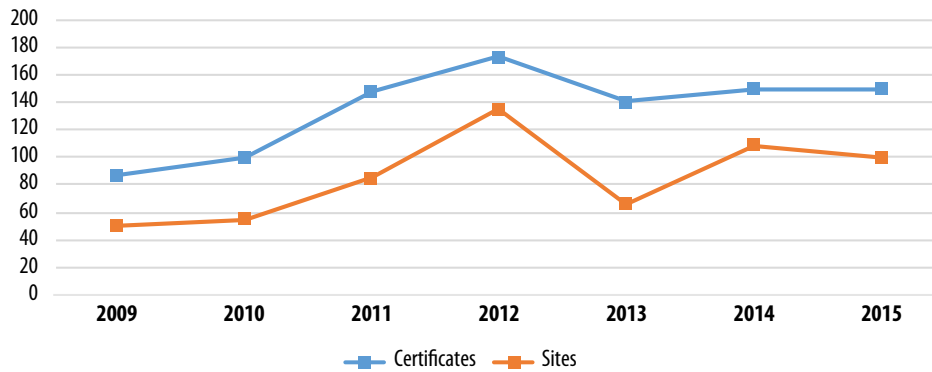
Eco-labelling of products, corporate social responsibility and voluntary environmental reporting by companies are useful tools for implementing and promoting environmental standards. The implementation of voluntary environmental standards is best emphasized by the increased number of ISO 14001 certificates issued in the period 2009–2015 (figure 1).

In the event of emergency inspections (e.g., after accidents), but also during some routine inspections, immediate sampling of air, soil, water or waste samples cannot be performed. As of May 2017, the environmental inspectorate does not have an accredited laboratory of its own nor a collaborating partner which could be requested to take samples at short notice. The entities' bodies responsible for environmental inspection do not have framework agreements with accredited laboratories to provide such a service. These services are outsourced to private laboratories, are costly and cannot respond in the event of emergencies.

The current level of financial sanctions following damage to the environment by legal bodies does not motivate the permit owners who violate permit conditions to change their behaviour. The applicable fine, ranging from €500–€5,000, is too small to bring about behavioural change, especially in installations in need of technological upgrading to meet environmental standards.



Figure 1: ISO 14001 certificates and sites, 2009–2015, number



Source: ISO Survey of Certifications to management system standards, 2016.
(<http://isotc.iso.org/livelink/livelink?func=ll&objId=18808772&objAction=browse&viewType=1>).



Recommended measures:

- Apply an integrated approach to environmental permits;
- Establish accredited laboratories to support inspections;
- Review environmental fines for non-compliance by permit holders;
- Perform joint inspections when applicable;
- Promote voluntary eco-labelling and corporate social responsibility programmes.

Greening the economy

Progress has been made since 2011 with regard to legislation considering economic instruments for environmental protection, but their implementation is limited and often not compliant with efficiency and effectiveness principles, while policies to exploit Bosnia and Herzegovina's green economy potential are substantially lacking.

Tariffs are the dominant funding source of the water management sector and they are insufficient to cover operation and maintenance expenses. Water supply and wastewater services are not financially self-sustainable and the infrastructures for water management and provision are obsolete. The low levels of tariffs and collection rates are not effective in incentivizing water saving and water loss reduction.

The price of wood is settled by law and the profitability rates of public enterprises are very low. Under-profitability of forest management enterprises limits the resources available for infrastructural and equipment investments in forest management and remediation and discourages private capital flows into the sector, leading to a gradual degradation of forest heritage and endangering the development of forest-related economic activities and exports.

Energy prices are low and do not reflect the total cost of production and provision. As a consequence of the low level of tariffs, financial resources to maintain and develop infrastructures are scarce and infrastructures face progressive deterioration. Further, the low per-unit prices of fossil fuel sources and electricity make it difficult to influence behaviours and cross-subsidization further hampers proper functioning of the instrument.

Setting energy prices in such a way as to reflect the total costs of energy should, on the one hand, grant the sustainability of energy supply and encourage energy efficiency, energy saving and the introduction of cleaner energy sources. On the other hand, increases in energy prices conflict with the affordability criteria due to, on the households' side, low income levels and the high relative share of income spent on energy and transport (table 1).

The special environmental fee is paid at the time of motor vehicle registration. From April 2013, a correction coefficient has been introduced to account for the different types of engine and fuel, and vehicle age, aiming to better price environmental damage from emissions. However, the linkage of the fee with actual pollution, depending on vehicle use, is still weak.

The tax on emissions is linked to the actual emissions into the atmosphere by enterprises. Fees are progressive, being higher for bigger polluters.

The building sector is the second largest contributor to air pollution and is characterized by high levels of energy inefficiency. The low level of household income reduces the availability of the financial resources needed to improve energy efficiency and to switch towards cleaner technologies and energy sources; few financial mechanisms are available to small businesses or individuals and those that are available, such as loans from commercial banks, are poorly subscribed due to high interest rates, transaction fees and collateral requirements.

The Federation of Bosnia and Herzegovina introduced special fees on plastic bags, packaging and electronic wastes. Regarding plastic bags and bottles, several measures



have been introduced, such as a deposit-refund scheme for recycling, economic incentives for selected collection and fines and penalties in the event of non-compliance, but their use should be reinforced.

Only one special fee is currently in force in Republika Srpska: the fee on packaging, paid mainly by importers. The fee revenue goes mainly to the Environmental Protection and Energy Efficiency Fund, which uses it to co-finance projects mobilizing private sector financial resources.

Table 1: Energy-related household annual expenditure

	Convertible mark	"Share of total expenditure (%)"
Transport	172,50	16,3
Energy, gas, other fuels and water	151,09	12,4
Total	323,59	28,7

Source: USAID Bosnia and Herzegovina, Sustainable development/clean energy sector assessment from 2011 national household budget survey, September 2016.



Recommended measures:

- Reinforce the use of economic instruments for environment protection;
- Better link fee structures to the actual use or pollution of natural resources;
- Promote private forest owners associations;
- Address energy efficiency in the housing sector;
- Stimulate waste reuse and recycling.



Environmental monitoring, information, public participation and education

Ten locations in Bosnia and Herzegovina conduct air quality measurements. Recent progress includes the establishment of a website where it is possible to obtain information on the real-time state of air quality. The United Nations Environment Programme (UNEP) has recently opened two new air monitoring stations in Bosnia and Herzegovina (in Prijedor and Gorazde) and brought two existing ones (in Ivan Sedlo and Banja Luka) back to full function since 2011.

The quality of groundwater is monitored only in areas where water is abstracted for public water supply. The monitoring of bathing waters is not performed systematically, but according to needs and available funds.

The lack of systematic soil monitoring, a soil and land information system and information on soil contamination is primarily linked to the lack of specific laws at the state or entity level that address soil protection and/or monitoring. The limited information available is restricted to basic land structure and use, soil classes and land ownership structures. Monitoring of noise is not carried out. There is no systematic collection of data on vibration. No biodiversity monitoring system is in place to provide quality data on the status of biodiversity in the country.

There are 11 automatic stations in Bosnia and Herzegovina distributed across the entities, which perform continuous measurement of ionizing radiation in ambient air.

The national shared environmental information system performance score for Bosnia and Herzegovina was 58 per cent in 2016. While this performance score reflects an increase in the overall accessibility of environmental indicators, the generally limited access to relevant environmental information and data in Bosnia and Herzegovina remains significant.

Bosnia and Herzegovina produced its first national State of the Environment Report in 2012. The report provides limited information on the state of the environment. This is principally due to the significant lack of relevant information and data on the environment (e.g., on biological diversity, climate change and land resources).

Some non-governmental organizations (NGOs) contribute to enforcing the law on access to public information, monitoring its application, collecting relevant data through the submission of freedom of information requests and starting appeal procedures. The participation of NGOs in environmental policy formulation and development is at a low level.

Recommended measures:

- **Establish integrated environmental monitoring systems;**
- **Assess social, economic and health impacts from environmental pollution and make results available;**
- **Ensure effective access to information, public participation and access to justice;**
- **Extend open access to environmental data and information;**
- **Strengthen capacity for the collection of data on the state of the environment.**

Implementation of international agreements and commitments

Bosnia and Herzegovina is a party to a number of international environmental agreements. This demonstrates the political importance that the Government attributes to being an engaged participant in international cooperation in the environmental domain. The aspiration to EU membership is the main driver for improving and completing the strategic and legal environmental framework in the country.

Bosnia and Herzegovina does not have in place effective institutional mechanisms to oversee and coordinate the implementation of all international environmental agreements to which the country is a party. The case-by-case approach followed in Bosnia and Herzegovina, under which implementation arrangements were established for some agreements, does not resolve the absence of these arrangements for the whole set of environmental agreements to which the country is committed.

Red Lists were developed and approved at the entity level. In 2012, Republika Srpska approved the Red List of Endangered Species of Flora and Fauna. In 2014, the Federation of Bosnia and Herzegovina approved the Red List of Endangered Wild Species and Subspecies of Plants, Animals and Fungi.

Bosnia and Herzegovina has no provisions in place at either the state or entity level aimed at combating the illegal killing of birds. There are no actions aimed towards the conservation of bird species and implementation of measures, including legal measures, to reduce and monitor the illegal hunting, taking and trade of wild birds.

Implementation of the Vienna Convention and Montreal Protocol is progressing well. The country has complied with zero consumption of chlorofluorocarbons since 2009. In 2012, the hydrochlorofluorocarbons (HCFCs) phase-out management plan was approved, committing the country to follow the Montreal Protocol phase-out schedule for HCFCs.

The National Implementation Plan for Reduction and Disposal of Persistent Organic Pollutants (POPs) was adopted in 2016. The country has progressed, notably in developing the main foundations for implementation of the Convention. A preliminary inventory of POPs was developed in 2013. Bosnia and Herzegovina has prohibited the import of all 10 POP pesticides.

Bosnia and Herzegovina acceded to the Convention on the Transboundary Effects of Industrial Accidents in 2013. No significant progress has been achieved in implementing the obligations under the Convention. Bosnia and Herzegovina does not have in place mechanisms for consultation with neighbouring countries on the identification of hazardous activities. The absence of coordination and cooperation regarding the identification of hazardous activities, and their eventual notification to neighbouring and riparian countries, are major shortcomings in the Convention's implementation.

Recommended measures:

- **Ensure coordination among all administration levels regarding implementation and enforcement of multilateral environmental agreements (MEAs);**
 - **Ensure the appointment of national focal points for all MEAs;**
 - **Involve NGOs in the development of national reports on implementation of MEAs.**
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Climate change mitigation and adaptation

Extreme climate events in Bosnia and Herzegovina have become more frequent. In the period 2003–2014, 6 of the 12 years were either very dry or extremely dry. In 2001, 2002, 2009, 2010 and 2014, there were large to disastrous floods. These extreme climate and weather episodes have caused substantial material and financial deficits, as well as casualties.

The energy sector is the main source of anthropogenic emission of greenhouse gases (GHGs). Two of the most carbon-intensive energy subsectors are energy conversion (thermal power plants, heating plants and transport) and industrial fuel combustion. The share of the energy industry in total emissions varies from 61 to 70 per cent across the years.

The risks associated with climate change have not yet been systematically considered in strategies and management plans for hydropower development. The hydropower sector has not yet adapted its infrastructure to both low river flows and increased peak river flows.

There is no evidence that Bosnia and Herzegovina has already implemented or is currently implementing policies and measures on adaptation of agriculture, the industrial and transport sectors and transport infrastructure to the current and foreseeable impact of climate change.

There is no comprehensive system for the monitoring of epidemics and disease prevalence correlated with climate parameters in Bosnia and Herzegovina. The increased temperature is likely to result in a higher number of cases of cardiovascular and cerebrovascular illness. Higher temperatures will also contribute to the spread of vector-borne diseases, thus increasing the incidence and extent of infectious diseases. Increased humidity will increase the number of respiratory ailments. Heatwaves will affect risk and mortality, for the elderly population in particular.

The Climate Change Adaptation and Low-Emission Development Strategy was adopted in 2013. The Strategy has two main objectives: increase resilience to climate change and reach a peak and stop annual growth values of GHG emissions by 2025.

Recommended measures:

- **Make the country more resilient to the impact of climate change and other natural and anthropogenic hazards;**
 - **Include human settlements in the considerations about climate change adaptation;**
 - **Include climate change adaptation and mitigation measures in spatial and urban planning.**
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Air protection

Pollutant release and transfer registers (PRTRs) have been installed in entity ministries and the Hydrometeorological Institute of Republika Srpska. The implementation of the EU E-PRTR Regulation ((EC) No. 166/2006) is hampered by the lack of sufficiently trained personnel within the governments and operators.

The environmental permits for industrial establishments are issued at entity and cantonal levels in the Federation of Bosnia and Herzegovina or at entity level in Republika Srpska and include emission limit values (ELVs) for the main air polluting substances. ELVs are in many cases based on EU standards.

The transport sector causes 40 per cent of the nitrogen oxides (NO_x), 80 per cent of the non-methane volatile organic compounds and an estimated 10 per cent of the emission of particulate matter (PM_{2.5}) (particulate matter up to 10 µm in diameter). At the moment, the average age of the private car fleet is 17 years and more than 75 per cent of the cars use diesel as fuel. More than 50 per cent of vehicles fail to achieve Euro-3 standards.

In Bosnia and Herzegovina, the heating of buildings and services consumes more than 50 per cent of the primary energy consumption. About 70 per cent of the houses are individually heated by furnaces that use fuel wood, lignite or coal as fuel. In winter, with periods of unfavourable meteorological conditions, the many emissions points at low altitude intensify the bad air quality and considerably increase local peak concentration levels of SO₂ and dust.

The 2015 National Emission Reduction Plan for Large Combustion Plants envisages the reduction of emissions of SO₂, NO_x and dust from large combustion plants by 95 per cent, 65 per cent and 85 per cent respectively, to gain (overall) levels in the IPPC Directive by 2027. However, its budget is assessed at more than €300 million; a solution for financing has still to be found.

The WHO Air Quality Guideline for the annual mean concentration of PM₁₀ (particulate matter up to 10 µm in diameter) is exceeded in many cities in Bosnia and Herzegovina, as is the EU Air Quality Standard. Results from a few stations are shown in figure 2. Exceedances of the WHO Air Quality Guideline for PM_{2.5} in Tuzla and Lukavac are shown in figure 3.

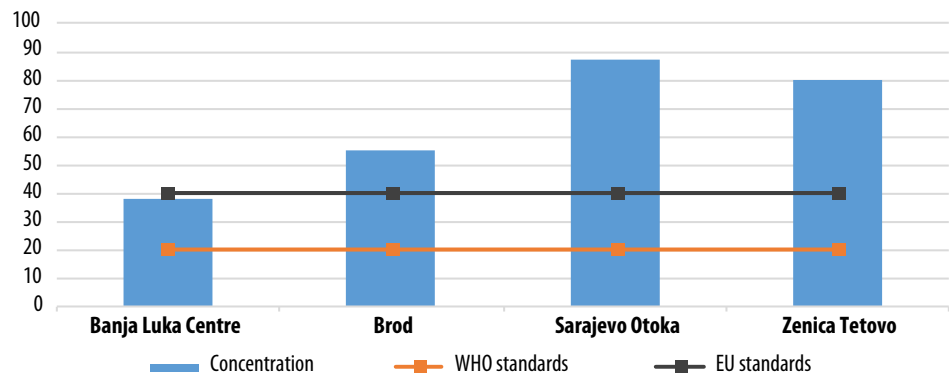
Industrial air emissions, combined with the air emissions from the growing number of vehicles and from domestic heating using firewood and lignite, create severe air pollution in industrial and urban areas, which causes serious nuisance and health problems. During less favourable meteorological conditions, high concentrations of substances such as SO₂ and particulate matter are reached in some urban areas that are situated in valleys, such as Tuzla, Zenica and Sarajevo.

The high levels of air pollution in and around cities in Bosnia and Herzegovina lead to serious health complaints, such as cardiovascular, respiratory and lung diseases. According to the World Health Organization, the per capita mortality rate in Bosnia and Herzegovina attributed to household and ambient air pollution is 223.6 per 100,000, which is one of the highest mortality rates by air pollution in the world. Concrete measures in all sectors (industry, traffic and domestic heating) are not being taken to improve this situation.





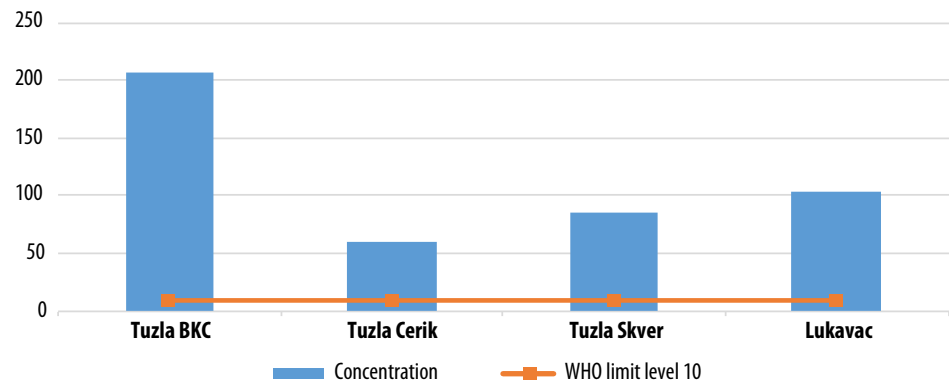
Figure 2: Annual mean concentration of PM₁₀, 2015, $\mu\text{g}/\text{m}^3$



Source: Annual Report on Air Quality in the Federation of Bosnia and Herzegovina for 2015 and the Air Quality Report for Republika Srpska for 2015.

Note: WHO Air Quality Guideline: $20 \mu\text{g}/\text{m}^3$; EU Air Quality Standard: $40 \mu\text{g}/\text{m}^3$

Figure 3: Annual mean concentration of PM_{2.5}, 2015, $\mu\text{g}/\text{m}^3$



Source: Annual Report on Air Quality in the Federation of Bosnia and Herzegovina for 2015.

Note: WHO Air Quality Guideline: $10 \mu\text{g}/\text{m}^3$. There is no EU Air Quality Standard for PM_{2.5}.

Recommended measures:

- Facilitate the renewal of the country's ageing vehicle fleet;
- Promote the use of clean and energy-efficient transport modes;
- Implement the measures for energy efficiency in residential and commercial buildings.

Water management

Most anthropogenic pressures on water are caused by urban zones without sewerage and wastewater treatment plants (WWTPs) or uncontrolled leachates from solid waste sites without proper treatment. It is evident that groundwater vulnerability is boosted by the prevalence of Bosnia and Herzegovina's karst geology.

Water resources in Bosnia and Herzegovina are sufficient to fulfil drinking water demands, but microbiological hazards are a health concern. Chlorination is the standard disinfection method in Bosnia and Herzegovina. However, 21 per cent of drinking water samples failed microbiological tests.

Approximately 82 per cent of the water abstraction in Bosnia and Herzegovina is for domestic use, 16 per cent is for industry and the remainder for agriculture and other applications. These figures are not the traditional pattern in EU countries and reveal the underdevelopment of industry and irrigated agriculture in Bosnia and Herzegovina.

Currently, surface water quantity monitoring is performed at 134 hydrological stations in Bosnia and Herzegovina, most of which (around 90 per cent) are automatic. Furthermore, the Sava River Watershed Agency has an online water monitoring service with forecasting and early warning, based on online data acquisition and numerical simulation.

The main environmental pressures on surface waters derive from urban and rural agglomerations, industrial facilities, livestock and poultry farms and fish farms. Diffuse sources of pollution in Bosnia and Herzegovina result from uncontrolled animal manure, the leaching of silage and solid waste dumping sites, and fertilizer surplus.

In the Federation of Bosnia and Herzegovina, 33 per cent of the population is covered by a sewerage system, but only about 3 per cent is connected to a WWTP in 2015 (excluding Sarajevo WWTP). In Republika Srpska, 36 per cent of the population is covered by a sewerage system but less than 5 per cent of population is connected to a WWTP. Brčko District has no urban wastewater treatment facility at all.

Recommended measures:

- **Construct or rehabilitate sewerage systems;**
 - **Consider sludge biotreatment or valorization from the design phase;**
 - **Develop drinking water safety plans following WHO guidelines;**
 - **Implement a monitoring programme on ecological flows.**
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Adriatic Sea protection

The Bosnia and Herzegovina part of the Adriatic Sea is still one of the best-preserved regions in the Mediterranean. Generally, the marine environment in Bosnia and Herzegovina is in good condition. However, the elaboration of the current state of the investigated marine water body indicates that it is exposed to significant anthropogenic influence that needs to be better assessed. Illegal construction, without any wastewater treatment system, poses a big potential threat to coastal areas.

Coastal tourism, which is the major current and potential activity in Neum, has become a major impact threat since the town has 4,000 inhabitants and receives more than 20,000 tourists per day in summer. This level of tourism corresponds to the maximum capacity of local infrastructure, especially for sewage.

Along the Eastern coast, solid waste is one of the main identified sources of pollution; there are no sanitary landfills but numerous dumping sites. Due to the karstic nature of the terrain, leachates from waste dumping sites are quickly released into the sea, increasing health risks for the local population and endangering tourism activities.

The main regional challenge is the issue of ballast waters from maritime transport, which are recognized as one of the main vectors for the spread of invasive species in the Adriatic Sea. The introduction of invasive species and loss of biodiversity further threaten tourism and fishing activities, including in the Bosnia and Herzegovina coastal area.



Recommended measures:

- Prepare a national integrated coastal zone management strategy;
- Prepare a contingency plan on marine pollution;
- Develop a system of small coastal protected areas along the Adriatic coastline.

Waste management

The predominant method for waste disposal in Bosnia and Herzegovina is landfilling. According to the Agency for Statistics of Bosnia and Herzegovina, between 2011 and 2015, the rate of waste permanently disposed of in landfills varied between 67 per cent and 79 per cent (table 2). The recovery rate was increasing during this period, but it did not reach 1 per cent by 2015.

On the one hand, there has been some improvement in waste management in Bosnia and Herzegovina since 2011, first by the adoption of an operator system in both entities. On the other hand, the introduction of the operator system did not solve the municipal waste management issues because the operator system exists in parallel to the municipal solid waste (MSW) management services. The operator system does not interfere with the MSW management services, because the rules do not oblige the operators to cover MSW. Thus entities still lack long-term solutions for proper MSW management.

Although waste statistics are not reliable, there is a huge difference between the amounts of generated MSW and disposed waste, which suggests that about 20–30 per cent of the collected MSW ends up on illegal dumpsites. The completion of the long-awaited regional landfills would be only the first, though most important, step towards creating an MSW system that is sustainable. There are deficiencies with the management of other types of waste, most significantly of medical waste – even its quantities are unknown. Significant funds and investments will certainly be required for the development of adequate facilities for the proper disposal of medical waste.

With the introduction of the system of operators for packaging waste, both entities made a significant step towards promoting the separate collection, reuse and recycling of waste, with ambitious targets. Other waste streams are not included in these schemes.

There was some progress with the closure of illegal dumpsites, which was connected to regional landfill construction. Inventories of illegal dumpsites were prepared in both entities, but there are no data on the impact from illegal or uncontrolled dumpsites on human health and the environment.





Since 2011, the practice of hazardous medical waste management in Bosnia and Herzegovina has remained unchanged. Medical waste might be subject to separate collection, but the lack of data hampers sound medical waste management.

Table 2: Municipal waste in Bosnia and Herzegovina, 2011-2015, tons

	2011	2012	2013	2014	2015
Generated municipal waste	1 306 663	1 302 866	1 119 267	1 334 522	1 248 718
Disposed waste, of which:	1 073 954	925 740	897 666	988 768	954 163
Permanently disposed of in landfill	1 034 327	873 008	894 183	984 989	941 551
Removal of waste in other way	36 896	50 747	101	110	421
Recovered waste	2 731	1 985	3 382	3 669	12 189

Source: Agency for Statistics of Bosnia and Herzegovina, 2013–2016.

Recommended measures:

- Enhance the recycling and reuse of the waste generated;
- Improve data reporting and information collection on all types of waste;
- Promote materials recovery from waste;
- Accelerate the construction of regional sanitary landfills;
- Close open dumpsites that are currently being used and remediate their territory.

Biodiversity and protected areas

The territory of protected areas in Bosnia and Herzegovina is small, and its percentage share of the total territory of the country is well below the European average. The existing 30 protected areas in the country cover only 2.07 per cent of the national territory.

No biodiversity monitoring system is in place to provide quality data on the status of biodiversity in the country. The country does not have an institution tasked to monitor the state of biodiversity, while the entities lack capacities to establish their own monitoring systems stipulated in their laws on nature protection.

Data on biodiversity in Bosnia and Herzegovina are scarce, fragmented and often outdated. In spite of the country's rich biodiversity, international obligations and growing anthropogenic pressures, nature conservation efforts remain insufficient.

The major threats to biodiversity in Bosnia and Herzegovina include unsustainable use of land and forests, habitat conversion, vegetation succession and invasive alien species, overexploitation of natural resources, waste mismanagement, inadequate fire protection, illegal hunting and fishing and climate change.

Socioeconomic challenges, such as unemployment and poverty, have resulted in communities focusing on immediate economic priorities rather than environmental issues, including biodiversity. Thus, biodiversity conservation is not seen as a national priority.

There has not been progress in terms of biodiversity since 2011, apart from the improvements to the legal framework. Progress in collecting environmental data and reporting on the state of biodiversity remains hindered. Budgetary allocations for nature conservation and biodiversity monitoring are low and insufficient for proper conservation measures. Public involvement and interest in the matters of nature conservation are sporadic.

Recommended measures:

- **Adopt national biodiversity targets and support their timely implementation;**
 - **Strengthen scientific and technical research in the domain of nature protection;**
 - **Ensure the inclusion of biological diversity concerns in policies of the economic sectors.**
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Forestry and environment

Forests and forestlands are important natural resources in Bosnia and Herzegovina.

Forests cover 56.2 per cent of the entire territory of the Federation of Bosnia and Herzegovina and 57.9 per cent of the entire territory of Republika Srpska.

The forest in Bosnia and Herzegovina has a typical structure of forests in South-East Europe, which consists of high and coppice forests.

In terms of forest types, broadleaf forest is predominant, accounting for 65.8 per cent of forests in the Federation of Bosnia and Herzegovina and 74.2 per cent in Republika Srpska (table 3).

Forest fires are a common occurrence in Bosnia and Herzegovina and result in incalculable damage, despite the fact that this area is not in the category of high risk within the European framework. Direct damage includes loss of timber stock, ground vegetation and other forest products, and the costs of firefighting and remediation and recultivation of the burned area.

About 5.7 million m³ of timber is harvested per year. Compared with an annual increment of more than 11 million m³, this means that only around 50 per cent of the annual increment is used for wood production.

Bosnia and Herzegovina has over 700 species of medicinal and aromatic plants, of which 200 are utilized.

Various non-wood forest products (NWFPs) are extensively used by the local population and private companies who hire local people in the rural areas to collect mushrooms, medicinal plants, berries, etc. There are no clear statistics on the collection of NWFPs. It is estimated that around 100,000 people collect various types of NWFPs within companies registered for their collection and processing.

Table 3: High and coppice forests by softwood and hardwood, 2009

	Federation of Bosnia and Herzegovina		Republika Srpska		Bosnia and Herzegovina	
	(ha)	(%)	(ha)	(%)	(ha)	(%)
Broadleaf	964 400	65,8	1 058 700	74,2	2 035 600	70,1
Mixed forests	304 000	20,7	204 300	14,3	508 300	17,5
Coniferous	197 200	13,5	163 000	11,4	360 700	12,4
Total	1 465 600	100	1 426 000	100	2 904 600	100

Source: Preliminary data of second State Forest Inventory in Bosnia and Herzegovina, Ministry of Agriculture, Water Management and Forestry, Federation of Bosnia and Herzegovina.

Recommended measures:

- Facilitate a certification process for private forests;
- Improve silviculture of low forests and shrubs in private forests;
- Improve and maintain the forest database system;
- Harmonize methodologies of data reporting with the current practice of international processes on forests and forest management.

Notes

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Bosnia and Herzegovina Environmental Performance Reviews Third Review - Highlights

The United Nations Economic Commission for Europe Environmental Performance Review Programme assesses progress made by individual countries in reconciling their economic and social development with environmental protection, as well as in meeting international commitments on environment and sustainable development.

The third Environmental Performance Review of Bosnia and Herzegovina takes stock of progress made by Bosnia and Herzegovina in the management of its environment since the country was reviewed for the second time in 2010. It assesses the implementation of the recommendations made in the second review. The third review covers legal and policy frameworks, regulatory and compliance assurance instruments, greening the economy, and environmental monitoring. It addresses air protection, water and waste management, biodiversity and protected areas and protection of the Adriatic Sea. It also examines the efforts of Bosnia and Herzegovina to integrate environmental considerations into its policies in the forestry sector. The review further provides a substantive and policy analysis of the country's climate change adaptation and mitigation measures and its participation in international mechanisms. The review also highlights challenges to be addressed by Bosnia and Herzegovina when implementing the 2030 Agenda for Sustainable Development.

The Highlights of the third Environmental Performance Review of Bosnia and Herzegovina draw attention to the key findings of the review to inform and guide policymakers and representatives of civil society, as well as the international community, in their efforts to improve environmental management and to further promote sustainable development in Bosnia and Herzegovina.

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