



Comparative legal assessment of the legislation regarding waste management in the BG-SR CBC region and elaboration of study on local and European best green practices in the field of waste management

*Project CB007.2.32.089 Preservation of ecosystem in rural areas of
Dupnitsa and Bela Palanka*

Content

Introduction.....	5
BOOK 1	7
I. European Union Civil Protection Mechanism	8
1. Activation of the EU Civil Protection Mechanism	10
2. Implementation of the EU Civil Protection Mechanism in the context of the COVID-19 pandemic.....	14
3. Applying the EU Civil Protection Mechanism in the context of climate change.....	15
II. Comparative study and presentation of various best green practices needed to maintain a sustainable ecosystem and improve soil, air and water and workable and applicable models in the field of waste management:.....	17
1. Green practices in Portugal	17
2. Green practices in Ireland.....	18
3. Green practices in Germany.....	24
4. Green practices in Sweden	26
5. Green practices in Canada	27
6. Green practices in Mexico	31
BOOK 2	33
III. EU environmental policies and legislation that protect natural habitats, keep air and water clean, ensure proper waste disposal, improve knowledge about toxic chemicals and help businesses move towards a sustainable economy. International environmental policies and legislation.	34



1. EU legislation in the field of environmental protection.....	36
1.1. The European climate law	39
1.2. REGULATION (EC) No. 1367/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on the application of the provisions of the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters to institutions and Community authorities.....	40
1.3. The Habitats Directive 92/43/EEC.....	41
1.4. Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage (the "Environmental Liability Directive").....	41
1.5. Directive 2008/98/EC on waste and repealing certain directives /Waste Framework Directive/	43
1.6. Amending Directive (EU) 2018/851,	45
1.7. Regulation (EC) No. 1013/2006 on shipments of waste or Waste Shipment Regulation (WWW)	46
1.8. Directive 1999/31/EC on the Landfill of Waste ("Landfill Directive")	46
1.9. Directive 2006/21/EC on the management of waste from extractive industries ("Mining Waste Directive")	46
1.10.Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).....	47
1.11.Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures (EC Regulation).....	47
1.12.Regulation (EC) No 850/2004 on persistent organic pollutants ("POP Regulation")	47
1.13.Directive 2012/18/EU on the control of major accident hazards involving dangerous substances ("Seveso III Directive")	48
1.14.Summary of the specific principles of EU environmental legislation	48
2. EU policies in the field of environmental protection.....	49
2.1. Multiannual environmental action programmes	51



2.2. European Green Deal	59
2.3. Paris Agreement.....	67
2.4. United Nations Framework Convention on Climate Change	68
IV. Comparative legal analysis of waste management legislation.	
Legal evaluation of the legislation in the field of waste management in the cross-border region Bulgaria-Serbia.....	68
1. Legal evaluation of the legislation on waste management in the cross-border region BG-RS	68
1.1. Waste Management Legislation in Serbia	69
1.2. Legislation on waste management in the Republic of Bulgaria	91
Conclusion	112
Applications.....	114

Introduction

The purpose of this Legal Assessment is to develop an analysis of waste management in the cross-border area Bulgaria - Serbia and to prepare a study of European environmental legislation and policies, local and European best environmental practices in the field of pollution prevention. The Study is divided into two parts and 5 chapters, as follows:

Part One which examines:

First chapter. Civil Protection Mechanism of the European Union, which, in addition to presenting the essence and characteristics of the Mechanism, also examines the ways of its activation, its application in the context of the COVID-19 pandemic and in the context of climate change.

Second chapter. A comparative study and presentation of various best green practices needed to maintain a sustainable ecosystem and improve soil, air and water and workable and applicable models in the field of waste management - this part presents green practices of a total of 6 countries, 2 of which are European – Portugal, Ireland, Germany, Sweden, Canada and Mexico.

A second part with an emphasis on EU environmental policies and legislation, as well as a comparative legal analysis of waste management legislation:

Third chapter. EU environmental policies and legislation that protect natural habitats, keep air and water clean, ensure proper waste disposal, improve knowledge about toxic chemicals and help businesses move towards a sustainable economy – this chapter looks at various EU environmental legislation and policies, with emphasis on waste management, pollution prevention, circular economy and biodiversity conservation.

Fourth chapter. Comparative legal analysis of waste management legislation. Legal assessment of the legislation in the field of waste management in the cross-border region Bulgaria-Serbia - in this part, an assessment is given of the national, regional and municipal plans

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



for waste management, as well as an attempt is made to give constructive proposals in connection with the improvement of the municipal plans in the context of European and international trends in waste management and pollution prevention. This part of the Report also examines green solutions that can be used in waste management.



BOOK 1

I. European Union Civil Protection Mechanism

In October 2001, the European Commission established the EU Civil Protection Mechanism (ECM), which aims to strengthen cooperation between EU countries and 7 participating countries in the field of civil protection to improve disaster prevention, preparedness and response. Outside the EU countries, there are currently six participating countries in the Mechanism: Iceland, Montenegro, North Macedonia, Norway, Serbia and Turkey. The current legal framework is established by Decision No. 1313/2013, which applies from January 1, 2014. The EU Civil Protection Mechanism falls under the responsibility of the Directorate-General for Humanitarian Aid and Civil Protection of the European Commission.

The overall objective of the EU Civil Protection Mechanism is to strengthen cooperation between participating countries in the field of civil protection with a view to improving disaster prevention, preparedness and response. The mechanism also facilitates the coordination of disaster preparedness and prevention actions of the national authorities of individual countries and contributes to the exchange of good practices between countries. **The specific objectives of the EU Civil Protection Mechanism** are:

- 1) Promoting cooperation between national civil protection authorities;
- 2) Increasing public awareness and disaster preparedness;
- 3) Ensuring the possibility of quick, efficient and coordinated assistance to the affected population.

When an emergency situation cannot be managed independently by a country in the EU or outside the Union, that country can seek help through the Mechanism, which is able to coordinate and coordinate actions in response to natural or man-made disasters **at EU level** . The European Commission is playing a key role in coordinating the global response, contributing at least 75% of the transport and/or operational costs. The scope of civil protection provided

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



through the Mechanism includes both preventive measures to reduce the impact of future emergencies or disasters, as well as assistance provided to the country/population in need following a natural or man-made disaster. Depending on the nature of the disaster, assistance can be provided in various forms, some of which include search and rescue operations, forest and urban firefighting, deployment of medical personnel, medical equipment and medicines, water purification, temporary shelter in emergencies, safe repatriation of EU citizens.

Since its creation in 2001, the EU Civil Protection Mechanism has responded to more than 600 requests for assistance within and outside the European Union. The EU Civil Protection Mechanism is a key tool for providing assistance to affected countries whose ability to respond to a large-scale disaster is severely limited. The EU Mechanism ensures that aid is delivered where it is needed and prevents duplication of efforts in the delivery of humanitarian aid.

In the context of the COVID-19 pandemic, we have witnessed unconventional security threats both at the national and EU level, which in the context of globalism have significantly limited the ability of individual countries to respond promptly to the threat, especially when several countries were simultaneously faced with one and the same crisis. The unique essence and nature of delegating part of national sovereignty to member states also predetermines the EU's key role in coordinating disaster responses in Europe and beyond. The ever-increasing pace of climate change processes will have a direct impact on the complexity and modification of security threats, making a unilateral response undertaken by just one country impossible. There is an increasing need for a comprehensive and rapid response model in the event of natural or man-made disasters.

In cases where Member States need additional support to ensure an adequate response to crises, the EU provides an additional level of protection and support precisely through the Civil Protection Mechanism. In 2019, the European Commission upgraded the EU Civil Protection Mechanism, creating rescEU to protect citizens from disasters and manage emerging risks, fully funded by the European Union.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



RescEU has created a new European reserve of resources - the RescEU reserve , which includes a fleet of firefighting aircraft and helicopters, medical evacuation aircraft, mobile shelters for displaced persons and stocks of medical items and field hospitals that can respond to medical emergencies. RescEU is an additional layer of protection for citizens in Europe, integrated into the EU Civil Protection Mechanism. It strengthens European disaster response preparedness and increases the capacity to respond to crises in Europe – such as forest fires, medical emergencies, chemical, biological, radiological and nuclear incidents, by ensuring the availability of mobile shelters, emergency transport, and electricity supplies on a local level.

In addition, the European Commission is currently developing a reserve for responding to chemical, biological, radiological and nuclear incidents. It will include expert teams, equipment and devices to detect, decontaminate affected people or infrastructure. The availability of medical countermeasures such as drugs, vaccines and therapeutics will also be ensured. Member States may also request the mobilization of material from the reserve in cases where there is a high risk of attack before public events.

Disasters know no borders and can simultaneously strike one or several countries without warning. Having a well-coordinated joint response means that when national authorities are overwhelmed, they have one point of contact rather than several to deal with.

A joint approach further helps pool the expertise and capacity of first responders, avoids duplication of relief efforts and ensures that relief meets the needs of those affected. Pooling civil protection capacity and capabilities enables a stronger and more coherent collective response.

1. Activation of the EU Civil Protection Mechanism

In order to gain an in-depth understanding of how the EU Civil Protection Mechanism is activated and functions, several key elements integral to the overall process of activation and provision of support through the Mechanism should be considered.



First of all, it is the **Emergency Response Coordination Center (ERCC)**. The ERCC is defined as the "heart" of the EU Civil Protection Mechanism, as it coordinates the provision of assistance to disaster-affected countries, including assistance items, expertise, civil defense teams and specialist equipment. The center ensures the rapid deployment of emergency support and acts as a coordination center between all EU Member States, the 6 additional participating countries, the affected country and civil protection and humanitarian experts. The ERCC operates 24/7 and can help any country in or outside the EU affected by a major disaster at the request of national authorities or a UN body. To reduce the burden on participating countries, the Emergency Response Coordination Center can liaise directly with the national civil protection authorities of the country in need. The Center can also financially support the delivery of civil protection teams and supplies to the affected country. The ERCC also acts as a central 24/7 point of contact when using the solidarity clause. It provides emergency communication and monitoring tools through the Common Emergency Communication and Information System (CECIS), a web-based warning and notification application enabling real-time information exchange.

The Center ensures cooperation and coherence of EU action at the inter-institutional level, focusing on coordination mechanisms with the European External Action Service, the Council and the EU Member States. The center can identify possible gaps in European aid and propose how these gaps can be covered by financial support from the EU. Under the EU Civil Protection Mechanism, the Commission can co-finance operational costs, including transport costs. This allows aid to be delivered to the affected country within hours with less budgetary impact on those offering the aid. Consolidating shipments to the affected country increases the effectiveness of the European response.

In 2021, the EU strengthened the center with improved operational, analytical, monitoring, information and communication capabilities. ERCC 's main operational functions include:

- 1) Activity as a Commission and EU platform for crisis monitoring and coordination;



- 2) A communication center between the participating countries, the affected country and the experts sent to the disaster area;
- 3) Development and distribution of information products;
- 4) Facilitate coordination between civil protection and humanitarian aid operations.

The above ECRR functions are supported by a web-based alert and notification application – Common Emergency Communication and Information System (CECIS). Satellite maps produced by *the Copernicus Office of Emergency Management* also support civil defense operations. Copernicus provides timely and accurate geospatial information that is useful for delineating affected areas and planning disaster relief operations.

Secondly, the ERCC is complemented by a **European Emergency Response Capacity**. It is a voluntary resource fund for disaster response, in which pre-allocated funds from participating countries are collected, which are ready for use, but only at the request of the Commission. The resource fund aims to help achieve the following goals:

- 1) Moving from reactive and ad hoc coordination to a pre-planned, negotiated and predictable system;
- 2) Identify and address critical gaps in disaster response capability in a cost-effective manner.

The European Emergency Response Capacity (or 'Voluntary Resource Pool') brings together different relief teams, experts and equipment from a number of EU countries. They are kept ready and made available immediately as needed for EU civil protection missions around the world.

Since its inception in October 2014, 10 countries have contributed their response resources or "capabilities" to the resource pool. Thirty-five response units (i.e., modules) have been registered; this includes, for example, "urban search and rescue" teams, specialized medical

resources for air evacuation, water treatment equipment, high-capacity pumping units and forest firefighting teams. More Member State resources are currently being registered.

Countries participating in the Resource Fund can benefit from EU financial support to further develop the proposed national response resources, pay for certification and training costs and cover up to 85% of the costs related to the transport of teams and equipment in areas of disasters.¹

Thirdly, we should consider the specifics of **the European Civil Protection Pool**, created in 2013. EU Member States, as well as countries participating in the Mechanism, can dedicate their national rapid response resources to the European Civil Protection Pool (ECPP). This fund enables better planning and coordination of response activities at European and national level, which leads to a faster and more adequate response to disasters by the EU. The ECPP is the backbone of the EU Civil Protection Mechanism.

As of June 2022, the ECPP brings together disaster response resources from 25 member states and participating countries, ready to deploy to a disaster area at short notice. These capabilities cover a wide range of services, such as search and rescue, medical treatment or forest firefighting.

- **How is the EU Civil Protection Mechanism activated?**

- **Within the European Union:** When a participating country is unable to deal with a major national emergency, it can request assistance from other participating countries through the Emergency Response Coordination Center (ERCC). After receiving the request, the ERCC is responsible for informing all other countries. The coordination center is responsible for the communication centers in the different countries. The ERCC is providing all countries with information and updates on the emergency until it is resolved. The type of intervention differs depending on the specific situation for which help is requested. The ERCC then facilitates the deployment of

¹ https://www.eca.europa.eu/Lists/ECADocuments/SR16_33/SR_DISASTER_RESPONSE_BG.pdf



assessment and/or coordination teams, experts, civil protection modules and provides co-financing for aid transport offered by participating countries, but management of the aid is the responsibility of the requesting country.

- **Outside the European Union:** The mechanism can be activated by an affected country by requesting assistance from the ERCC. In these cases, the High Representative for Foreign Affairs and Policy, together with the Presidency of the European Council, coordinates the political response in cooperation with the Commission. This ensures that communication is maintained with the affected country, facilitating the rapid deployment of community assistance, above all during the first hours of an emergency.

Any country in the world, as well as the United Nations and its agencies or related international organizations, can seek help from the EU Civil Protection Mechanism. In 2021, the Mechanism was activated 114 times. Specific examples include: 1) the need to address the COVID-19 pandemic in Europe and around the world; 2) the floods in Belgium; 3) the forest fires in the Mediterranean, the Western Balkans and Austria; 4) repatriation from Afghanistan; 5) the earthquake and hurricane in Haiti; 6) the cyclones in Madagascar in February, 2022.

The war in Ukraine triggered the largest emergency operation since the establishment of the Mechanism. In response to the intensifying humanitarian crisis in Ukraine, all 27 EU Member States, as well as Norway, Turkey and North Macedonia, have offered assistance to Ukraine through the Union's Civil Protection Mechanism. The aid includes a huge amount of first aid kits, firefighting equipment, water pumps, power generators, fuel as well as all kinds of shelter facilities and more. Through the Mechanism, the Union also coordinates the evacuation of Ukrainian patients in need of emergency and/or urgent medical care to hospitals across Europe.

2. Implementation of the EU Civil Protection Mechanism in the context of the COVID-19 pandemic

COVID-19 pandemic has brought new challenges such as the lack of sufficient market availability of personal protective equipment, the need for medical supplies and equipment, doctors and medical teams. It also tested the ability of individual states to respond promptly to

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



an unconventional security threat. In 2021, more than 60% of aid requests received were related to the COVID-19 pandemic, with more than 200 million items of medical supplies and equipment distributed.

Various emergency medical teams, part of the ECPP, were deployed in response to the crisis. In April 2020, two emergency medical teams from Norway and Romania were sent to northern Italy to assist Italian medical staff battling the escalating pandemic. In June this year, an Italian emergency medical team was sent to Armenia after the Mechanism was activated.

To better respond to future challenges, new EU civil protection legislation – in force from May 2021 – gives the EU additional capacity to respond to new risks in Europe and the world and increases the rescEU pool.

3. Applying the EU Civil Protection Mechanism in the context of climate change

In addition to the above applications of the EU Civil Protection Mechanism, it also intervenes in marine pollution emergencies: The Emergency Response Coordination Center (ERCC) can quickly mobilize oil recovery capacity and expertise by the participating countries and the European Maritime Safety Agency (EMSA). Extreme weather events resulting from climate change are becoming more frequent, intense and persistent. That is why in March 2022 the Council adopted conclusions calling for further adaptation of civil protection systems to the effects of climate change in terms of prevention, preparedness, response and recovery.

In this context, Member States are encouraged to:

- to invest in scientific research and innovation;
- to ensure the availability of sufficient capacity at the national level;
- to support the preparedness of the population.



These conclusions are an important step towards increasing the resilience of the EU. The revised legislation contains new actions to be taken in relation to disaster risk reduction and the scope of building a culture of prevention, promoting better preparedness and planning, closer cooperation in disaster prevention and more coordinated and faster response. For these reasons, the legislative framework includes measures that will help to be better prepared for any future disasters and that will ensure closer cooperation between participating countries. Within the Council, the Working Group on Civil Protection (PROCIV) is the body that deals with matters related to civil protection, such as:

- legislative proposals of the Commission;
- conclusions of the Council on specific topics;
- contribution to negotiations within international forums.

It also holds policy discussions and exchanges of views on specific topics. The working group is chaired by the rotating presidency of the Council, which draws up a work Programme.

Since its creation in 2001, the EU Civil Protection Mechanism has followed over 400 disasters and received over 250 requests for assistance, while also responding to over 300 requests for assistance from outside the EU. The mechanism can be activated in response to man-made or natural disasters, but also supports disaster prevention and preparedness actions. Prevention and preparedness activities mitigate the effects of disasters. Some of these are: a training program for civil protection experts from EU Member States and participating countries, which ensures compatibility and complementarity between response teams, while large-scale exercises train capacity for specific disasters each year.

The EU supports and complements the prevention and preparedness efforts of its Member States and participating countries, focusing on areas where a joint European approach is more effective than individual national actions. These include risk assessments to identify EU-

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

wide disaster risks, promoting research to promote disaster resilience and strengthening early warning tools.

II. Comparative study and presentation of various best green practices needed to maintain a sustainable ecosystem and improve soil, air and water and workable and applicable models in the field of waste management:

1. Green practices in Portugal

LIPOR is an inter-municipal waste management company from the agglomeration of Porto in Portugal. It was founded in 1982 as a municipal association for the management, recovery and treatment of household waste in 8 municipalities in the Greater Porto region: Espinho, Gondomar, Maia, Matosinhos, Porto, Póvoa de Varzim, Valongo and Vila do Conde. According to the company's data, every year it processes about 500,000 tons of household waste, which is produced by about 1 million inhabitants. LIPOR is also investing in creating an adventure park on the site of an old landfill site after environmental and landscape restoration. This creates an area for play, recreation and training.

LIPOR relies on modern waste management concepts that promote the adoption of integrated systems and the minimization of waste disposal in landfills. In this regard, they have developed an integrated management strategy, which is based on 4 key components: multi-material recovery, organic recovery and energy recovery, supported by a landfill for receiving process waste and pre-prepared waste.

In April 2016, LIPOR started an initiative to collect plastic bottle caps collected by citizens. The plastic caps are sent for recycling, and the company invests the proceeds to purchase and donate medical equipment. Since the start of the initiative, about 847 tons of caps have been collected, resulting in the delivery of 1,650 medical equipment to 599 sites.

Mobile Drop-off site - LIPOR, in partnership with the eight associated municipalities, creates an innovative solution for waste recycling, namely mobile drop-off sites. From the

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



beginning of 2021, mobile drop-off points are moving in all municipalities, allowing citizens to deposit certain types of rubbish (see Diagram 3 in the Appendices) for recycling.

The Ecobin service – a delivery system for recycled materials par excellence. The eco bin is a set of three different colored containers for the delivery of materials: yellow for plastic and metal packaging, blue for paper, cardboard, newspapers, magazines and writing paper and green for glass packaging. Some Ecobins may also have a small red container for used batteries.

Since June 2000, LIPOR has been providing the ECOFONE service, which consists of free selective door-to-door collection of recyclable materials (paper and cardboard, glass, plastic and metal packaging). The service is offered through a freephone number for the city of Porto, which is specifically designed for the commercial, service and catering sectors. The ECOFONE service is suitable for the following sectors:

- ✓ Services and trade (shoe shops, copy centers, supermarkets, advertising agencies, printing houses, offices, banks, insurance companies, travel agencies, etc.);
- ✓ Educational institutions (which do not have ecobins available);
- ✓ Public administration services;
- ✓ Establishments (hotels, restaurants, cafes and similar businesses).

Recyclables are collected by special teams in commercial vehicles, allowing good mobility around Porto.

To ensure the effectiveness of Ecofone, the date and time of collection is always agreed in advance with the person who requested the service, according to their availability and the amount of material to be collected (minimum 5 bags). The bags are collected free of charge.

In 2017, Portugal activated the EU Civil Protection Mechanism in the context of devastating forest fires.

2. Green practices in Ireland

Ireland has a well-established National Waste Prevention Program (NWPP) which is recognized by the European Commission as an example of best practice in the EU.



Ireland's National Waste Prevention Program (NWPP) was established in 2004. The program is being reviewed periodically over the years, with the most recent review being from 2018. The current program shifts the focus from a predominantly demonstration and regionally oriented approach to strategically oriented national waste prevention programs. The latest revision took into account broad policy developments such as the circular economy and climate agendas. The program aims to provide tools and information to businesses, individuals and the public sector to influence behavior change, support sustainable choices and inform policy.

The program's waste prevention goals are of two types:

1. quantitative targets (waste reduction);
2. quality objectives (reduction of hazardous substances/environmental impacts).

The NWPP is Ireland's flagship circular economy initiative. This emerging economic model seeks to minimize resource and energy consumption by keeping products and materials in use longer than currently. It is based on the waste hierarchy, which identifies waste prevention as the primary approach, followed by reuse, repair and recycling. Specifically, the NWPP aims to:

- reducing wasteful consumption of material, water and energy resources by changing behavior in business, households and the public sector;
- increasing competitiveness and reducing business costs by providing programs that drive resource efficiency and the circular economy;
- supporting sustainable growth and employment in the green economy, including re-use enterprises;
- minimizing the generation of hazardous waste through efficient practices and the use of safer alternatives;
- management of hazardous substances in products through effective regulation;
- informing and influencing evidence-based decision-making through the collection and publication of high-quality waste data.

The program covers the following sectors:



- Agriculture;
- Construction and infrastructure;
- Healthcare;
- Manufacturing and industry;
- Retail;
- Transportation;
- Households;
- Service activities;
- Hospitality industry;
- Public services (including public procurement).

Priority types of waste covered by the program:

- Ø Food/organic waste;
- Ø Waste from construction and demolition /demolition of buildings;
- Ø Dangerous waste;
- Ø Waste;
- Ø Packaging;
- Ø Waste electrical and electronic equipment/batteries;
- Ø Production waste;
- Ø Oversized waste;
- Ø Waste of water;
- Ø Other miscellaneous waste.

Ireland's National Waste Prevention Program explicitly includes working with various stakeholders. Through innovation and partnership working, it supports initiatives that develop and demonstrate best practice in an Irish context. Specific interactions are tailored to engage with the general public, commercial enterprises or public bodies, with an emphasis on evidence-based messaging.



In 2019, work built on existing successful partnerships with the Irish Farmers' Association, the Reinvention Center and Community Resource Network Ireland and established new collaborations including with Irish Manufacturing Research and the Association of Irish Universities. In the public sector, NWPP works closely with the Ministry of Environment, Climate and Communications, regional waste management services and with local authorities through the Local Authority Prevention Network (LAPN).

Waste management in Ireland is measured at project level with indicators set out in the NWPP. Available data shall be screened as appropriate and aggregated by sector or otherwise to indicate:

- ✓ the volume of saved resources (tons);
- ✓ materials, cubic meters of water, kilowatt hours of energy), with measurements taken before and after the intervention (e.g., residual waste production per person);
- ✓ the amount of waste prevented (tons of waste generated), with measurements taken before and after the intervention;
- ✓ money saved (the difference in euros in waste, water and/or energy costs after the intervention or change).

All specific prevention projects undertaken under the NWPP has built-in indicators. Indicators are quantitative when possible and qualitative when appropriate. Examples of such indicators also include the number of businesses or communities with which different waste prevention projects are linked.

For the purposes of waste management planning, Ireland is divided into three regions (South, East Midlands and Connacht-Ulster). The regional waste management plan 2015-2021 envisages a reduction of 1% per capita per year in the amount of household waste generated during this period. NWPP collaborates and provides funding and support for waste prevention activities by local authorities in these regions through the LAPN.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



The Irish Environment Protection Agency publishes annual progress reports which provide detailed information on successfully implemented waste prevention measures and strategic considerations on future waste prevention priorities (<https://www.epa.ie/pubs/reports/waste/prevention/reports/>).

A National Waste Prevention Committee was convened in 2004 to oversee the development of the NWPP and provide strategic guidance to the Irish Environment Protection Agency in its implementation. The Irish Environment Protection Agency provides the committee's chair and secretariat; other members are drawn from government, non-government, business and sector interest groups.

Annual progress reports include assessments of specific projects and waste prevention measures. In addition, N WPP provides technical supervision.

The 2019 Annual Waste Prevention Report highlights successfully implemented waste prevention measures in the following areas:

1. innovation and demonstration
2. delivery through partnerships
3. advocacy and communications

Specific waste prevention measures structured in accordance with Article 9 of the Waste Framework Directive

✓ Circular Campus: Together with the Association of Irish Universities, the potential for waste prevention and behavior change on Irish university campuses will be explored. The Roscommon Women's Network is helping to visualize the potential of the local circular economy by offering training in textile reuse. A podcast was produced in collaboration with RTÉ on the circular economy in Ireland.

✓ As a national campaign, Stopfoodwaste.ie raises household awareness of food waste issues. The Food Waste Charter encourages businesses to take action to prevent and report food



waste in Ireland. With its social media initiatives, the campaign gained a 57% increase in social media followers, allowing it to reach a wider audience about food waste among consumers. In addition, a media campaign on food waste ran for 2 weeks on both radio and social media, reaching over 1.6 million listeners.

✓ Green Enterprise: Innovation for the Circular Economy is a competitive funding program/flagship initiative of the NWPP that created opportunities for innovation in the priority areas of plastic waste, construction and demolition waste, food waste and resources and materials in 2019. The program promotes case studies that explore circular economy opportunities and scenarios for Irish businesses and organizations, and demonstration projects to apply research ideas.

✓ Resource efficiency tools: online tools like TREE help companies monitor their internal processes and housekeeping actions to use water, energy and materials efficiently;

✓ Irish Manufacturing Research: this 3-year partnership (2020-2022) is for CIRCULÉIRE, the national circular manufacturing platform to develop circular economy models and offer funding for innovation. The aim is to measure the efficiency of greenhouse gas emissions and waste generation.

✓ The Small Business Innovation Research initiative offers solutions to the plastics challenge. It encourages collaboration between SMEs and the public sector to promote innovation to tackle the unsustainable amounts of plastic packaging used in Ireland.

✓ LAPN promotes NWPP's priority efforts to prevent local waste and to promote local prevention measures in communities.

✓ As part of the DCCAE-led green government initiative, the NWPP provides guidance on resource efficiency action plans. This can help governments conserve water, energy and materials, prevent food waste and increase recycling rates in their working environment. This activity is supported by the online resource efficiency tool TREE.

✓ Smart Farming: This program involves a partnership between the Irish Farmers' Association and the NWPP. It evaluates the efficiency of farm resources and identifies potential savings and efficiencies.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

✓ Working within the NWPP, the Controlled Substances and Producer Responsibility Division supports producer responsibility initiatives under the Waste Electrical and Electronic Equipment and Battery Regulations that place significant emphasis on prevention in the design phase.

✓ Community Resources Network Ireland is a network for reuse and repair organizations in Ireland, representing them in national and European policy development. Members of this network have reused over 24,000 tons of materials.

✓ A specific tool funded by the NWPP is repairmystuff.ie. It creates links between repair businesses and consumers in Ireland to promote re-use repair within a circular economy approach.

3. Green practices in Germany

In Germany, responsibility for waste management and environmental protection is shared between the national government, federal states and local authorities. The National Ministry of the Environment sets priorities, participates in the adoption of laws, oversees strategic planning, information and public relations, and sets requirements for waste facilities. Federal states and local authorities are responsible for implementing the legal requirements set by EU and national legislation.

Each federal state adopts its own waste management law, which contains additional provisions to national legislation, for example on regional waste management concepts and rules on disposal requirements. There is no national waste management plan in Germany, instead each federal state develops its own waste management plan.

For municipal waste, the Recycling and Waste Management Act 1996 gives local public authorities responsibility for waste disposal - in most federal states these are counties and cities. Their responsibility covers the collection and transportation of waste, measures to promote the prevention and recovery of waste and the planning, construction and operation of waste disposal facilities in accordance with national and regional legislation. Municipalities have more practical tasks, such as providing waste collection sites.

The German Circular Economy Act (Kreislaufwirtschaftsgesetz or KrWG) (Germany, 2012), passed in 2012, incorporated the requirements of the Waste Framework Directive into German law. The Act was supplemented by separate regulations based on specific waste streams.

Germany was the first EU country to introduce producer responsibility with a law on packaging waste in 1991. Under this feature, which is an essential element of German waste legislation, the producer of a product is generally responsible for the product once it has become waste. The principle has been applied to a range of product types, such as packaging, electrical and electronic equipment, vehicles, solvents, oils and batteries. For packaging waste, extended producer responsibility only applies to domestic packaging waste, while in most other European countries commercial and industrial packaging waste is included.

There are currently 10 organizations responsible for competing packaging manufacturers in Germany, an organization representing around 50% of the market. Overall, the system covers all the costs of collecting and treating the relevant waste streams and achieves high levels of recovery, recycling and reuse.

German households benefit from door-to-door waste collection services. In urban areas, recyclables are collected door-to-door, while in rural areas collection points are the main method of collecting recyclables, although there are many different collection systems. Door-to-door collection of recyclable waste can be organized separately in special containers or bags or as a combined collection of several types of waste.

Since 2015, the separate collection of bio-waste is mandatory. Yellow baskets or sacks are used to collect plastic and metal packaging waste. Commercial waste that is similar to household waste is collected in the same way as household waste.

Germany also has a deposit refund system for single-use and refillable packaging. All beverage containers, except wine, fruit juice, milk, sparkling wine or spirits, have a storage fee.

The services of collecting residual and bulky household waste, as well as biological waste, are financed by a fee paid by the citizens and determined by each municipality. There is usually a

fixed fee as well as a variable rate. Collection of packaging waste, door-to-door or through collection points, is free for citizens and funded by EPR schemes, although collection points are partly paid for by municipalities.

In 2012, 94 waste incineration plants were operating in Germany for the treatment of residual waste, not all of which were intended exclusively for the incineration of household waste; several installations using fuel from waste and 60 installations for mechanical biological treatment (MBT) of various types and configurations.

Waste recycling covers various trends in materials and organic recycling. The amount of material recycling in Germany increased over the period from 19.6 million tons, 38%, in 2001 to 23.3 million tons, 47%, in 2014. However, this development is highly uneven. Between 2001-2014, organic recycling increased very little, from 15% to 17%, equivalent to an increase from 7.6 million tonnes to 8.6 million tonnes.

4. Green practices in Sweden

ReLoop Platform is the European organization that supports and develops circular economy implementations, where the Swedish system for guaranteed collection of packaging waste was presented.

This system is the oldest in Europe and has not only ensured high levels of collection of plastic waste and metal drink packaging, but has also managed to close the loop for recyclable products in the local market, which means: litter-free streets, clean air and recycling plastic food bottles.

Highlights of Sweden's deposit-based packaging waste collection system:

- ✓ 84.9% recycling rate
- ✓ 3,100 retailers - 94% of collected volumes come from retailers
- ✓ 70 employees
- ✓ EUR 285.3 million turnover (SEK 3.1 billion)

Swedish packaging waste management legislation requires any legal entity that manufactures and packages beverages in plastic bottles or cans, or imports them, to ensure that

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



the containers are integrated into a permitted return system. The answer is a centralized deposit system coordinated by AB Svenska Returpack, which is also the owner of all collected materials (bottles, boxes, lids). In Sweden the implemented system provides an 84.9% recycling rate, while 10% is lost through cross-border trade (Sweden / Norway) and 3% is taken up by other plastic/metal collection systems. This means 19,870 tons of aluminum, 23,244 tons of PET, 1,377.

The Swedish warranty system is coordinated by AB Svenska Returpack and managed by partners. No claims are made about materials or their value by manufacturers or industry. Returpack sells the processed material (sorted, cleaned, packaged) to the raw material buyers based on the agreements between Returpack and them. Revenue from material sales covers Returpack's costs of running the return system, such as collection, processing and administration. To promote the circularity of materials, Returpack chooses to sell materials only to buyers who support circularity. Buyers process the raw material and sell the products to customers - suppliers of canned goods, food packaging or blanks. Returpack has absolutely no information about the agreements or prices charged at this level.

In 2018, 360 firefighters, 7 aircraft, 6 helicopters and 67 ground vehicles were mobilized through the European Civil Protection Mechanism to fight the unprecedented forest fires in Sweden. This is the largest fire-fighting operation of the European mechanism in the last decade.

5. Green practices in Canada

In Canada, responsibility for waste management and reduction is shared between federal, provincial, territorial and municipal governments. Municipal governments manage the collection, recycling, composting and disposal of municipal waste, while provincial and territorial governments establish waste reduction policies and programs, approve and monitor waste management facilities and operations. For its part, the federal government complements the activities of other levels of government by controlling international and interprovincial movements of hazardous waste and hazardous recyclables, and identifying approaches and best practices that will reduce pollutant and greenhouse gas emissions from waste management .



Through a wide variety of programs, the federal government provides funding for pilot projects, community activities and essential infrastructure to reduce waste sent to landfills and improve the way Canada manages its resources. It also collaborates with provincial, territorial, municipal and local partners to develop and implement standards on issues of mutual interest, such as the management of plastics and mercury from used fluorescent lamps. Within the Canadian Council of Ministers of the Environment (CCME), environment ministers from the federal, provincial and territorial governments work together to improve waste reduction policies and practices in Canada.

In Canada, the "Extended Producer Responsibility" (EPR) and "Product Stewardship" programs are used to manage end-of-life products. The main differences in approaches are:

- The Extended Producer Responsibility - EPR approach involves identifying end-of-life management of products as the responsibility of producers (e.g., brand owners, first importers or manufacturers). In EPR, financing is provided by producers and costs can be internalized as a factor of production or can be passed on to consumers.
- Product stewardship programs involve devolving responsibility to provincial/territorial or municipal governments. Statutory environmental fees and/or public funds are usually used as the funding base. Financial responsibility is not usually allocated to producers.

The Government of Canada is working with all levels of government, industry, NGOs, researchers and Canadians to take action against plastic waste and pollution. In November 2018, through the Canadian Council of Ministers of the Environment, the federal, provincial and territorial governments adopted the Canada-wide Zero Plastic Waste Strategy. Building on the Ocean Plastics Charter, the strategy adopts a circular economy and life-cycle approach to plastics and provides a framework for action in Canada.

The federal, provincial and territorial governments have also adopted a Canada-wide Zero Plastic Waste Action Plan to implement the strategy. The plan, developed in two phases, sets out

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



tangible actions and clear timelines to better prevent, reduce, reuse, recover, capture and clean up plastic waste and pollution in Canada.

Phase 1 of the Action Plan (2019) identifies actions to improve the circularity of plastics in the economy and to make the systems changes needed to reduce plastic waste. Phase 2 of the Action Plan (2020) outlines actions to reduce plastic pollution, raise awareness, strengthen science and take global action.

The Government's Greening Canada Strategy drives action within the federal government and guides practical steps to manage the use and disposal of plastics in their own operations. The government's steps to reduce plastic waste include new commitments to: set clear plastic waste diversion targets, eliminate the unnecessary use of single-use plastics in government operations, and implement procurement practices to focus on sustainable plastic products

Specifically, the Government of Canada will work to:

1. Increasing the diversion of plastic waste

Commitment: Divert at least 75% of plastic waste by 2030 from federal operations.

The plastic waste target is in line with and supports the Government's Greening Strategy commitment to “divert at least 75% by weight of all non-hazardous operational waste by 2030.” This target will support the Ocean Plastics Charter's commitments to increase efficient use of resources while strengthening waste diversion systems and infrastructure for the collection and processing of plastic materials.

2. Reducing the use of single-use plastic in government activities, meetings and events

Commitment: Eliminate the unnecessary use of single-use plastics in government activities, events and meetings

Single-use plastic items such as single-use straws, cutlery, drink bottles, disposable hot and cold drink cups and plastic bags are a visible component of the plastic waste stream and make up a significant proportion of plastic waste in land and sea. environment and can be difficult to

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



collect and recycle. While single-use plastics may sometimes be necessary for reasons of affordability, health, safety or security, in many situations they can be avoided entirely or replaced with reusable, compostable or recyclable alternatives. Alternatives that serve the affordability and health needs of government employees, such as disposable flexible straws, will continue to be provided when needed.

3. Providing sustainable plastic products

Commitment: When purchasing products that contain plastic, encourage the supply of sustainable plastic products and the reduction of associated plastic packaging waste.

Public procurement can be used to support markets for more sustainable plastic products, such as those that can be reused or repaired, recycled or refurbished, made with recycled plastic content, or can be easily recycled or composted at the end of your life.

For all these initiatives, the government's approach takes into account the availability of options for recycling and diverting plastic waste, health, affordability and national exemptions for safety and security.

The Canadian Plastics Science Agenda (CaPSA), released in July 2019, is a framework to inform future science and research investments and decision-making. CaPSA identifies knowledge gaps and helps direct investment to priority research areas in the life cycle of plastics. The Plastics Pollution Awareness Initiative and Plastics Science for a Cleaner Future are examples of Canada's investments to address key knowledge gaps.

In October 2020, the Canadian government released a scientific assessment of plastic pollution. This report reviews the available scientific information on the potential impact of plastic pollution on the environment and human health. It recommends action to reduce plastic in the environment in accordance with the precautionary principle. It will also help inform federal action and policy, as well as future research on plastic pollution in Canada.

The Canadian Plastics Innovation Challenges (CPIC) are part of Canada's comprehensive approach to addressing plastic waste and pollution. This program offers funding to small and

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



medium-sized enterprises to stimulate the development of technologies to deal with plastic waste. Through CPIC, Canada is investing nearly \$19 million to support Canadian innovators to develop solutions to plastics challenges, providing winners with up to \$150,000 to develop a proof of concept, then up to \$1 million to develop a prototype. if elected. Environment and Climate Change Canada is the sole sponsor of five of these challenges, which have raised over \$4 million in additional funding.

Among the innovation initiatives funded in Canada are Innovations in Addressing Plastic Packaging Waste, Innovative Canadian Solutions for Managing Plastic Waste and Plastic Pollution, Small Business Innovations to Reduce Plastic Waste.

6. Green practices in Mexico

In Mexico, the waste management sector is organized according to three types of waste. First, municipalities are responsible for municipal solid waste (MSW) management. Second, states are responsible for special waste streams such as tires, C&D waste, water treatment sludge, etc. Finally, federal authorities organize the management of hazardous waste (including medical waste). In the Mexican system, with some exceptions, 2,457 municipalities do not charge fees for waste collection, treatment and disposal, which is an obstacle to proper waste management. Municipal councils change every three years, which affects the vision, planning and waste management projects.

The General Law on the Prevention and Comprehensive Management of Waste (2003) promotes the recovery of waste and minimizes the impact on the environment and human health. In 2009, the federal government published the National Waste Prevention and Management Program, which increased the involvement of states, municipalities and the private sector in waste management.

In 2019, the government of Mexico City announced a circular economy action plan. The main goal is to achieve zero waste. This plan introduces provisions to reduce the amount of packaging and single-use products, appropriate processes and infrastructure for waste management, creation of cooperatives and micro -enterprises specialized in waste management,

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



and educational campaigns for zero plastic waste disposal. At the federal level, there is an ongoing policy initiative to promote the circular economy in the water and energy sectors.

The metropolitan area of Mexico City is one of the largest urban centers in the world. Garbage collection coverage there is 100%. Organic waste makes up 46% of the total in Mexico. There are 24 installations for the treatment of organic waste (considering the urban, agricultural, livestock and forestry sectors). 19 of these plants carry out composting and five of them bio digestion. Seven composting plants are located in Mexico City, another four composting plants are located in the state of Mexico. The Bordo Poniente composting facility processes an average of 1,374 tons of organic waste per day. 1251 tonnes per day comes from home collection and large generators, with compost production of 269 tonnes per day. The other plants in Mexico City together process 26 tons per day.

Puebla has two anaerobic digestion plants. One of these plants is considered the most advanced municipal solid waste (MSW) processing plant in Mexico, developed by Van Dyk Solutions. It is a Dutch company that sells equipment to Bollegraaf/Lubo and has recently expanded its services to Latin America



BOOK 2

- III. EU environmental policies and legislation that protect natural habitats, keep air and water clean, ensure proper waste disposal, improve knowledge about toxic chemicals and help businesses move towards a sustainable economy. International environmental policies and legislation.

EU environmental policies are aimed at protecting the environment and biodiversity, minimizing risks to human health and promoting the transition to a circular economy. The European Union, through its policies and legislation, maintains some of the highest environmental standards in the world. The EU, as well as the national governments of the Member States, have set themselves clear goals and a vision to guide European environmental policy with the support of dedicated research programmes, legislation and funding:

1. Protection, preservation and improvement of the EU's natural capital;
2. Transforming the EU into a resource-efficient, green and competitive low-carbon economy;
3. Protecting EU citizens from climate change-related and environmental risks to health and well-being.²

The acquis of EU law consists of over 200 EU instruments, including regulations and decisions that are directly binding and directives that are transposed into national law. It consists of legal instruments for waste management, industrial pollution control, air quality, water quality, biodiversity and nature conservation, noise, GMOs, ionizing radiation and other horizontal issues and cross-sectoral files. Strategic European direction is currently provided through the overarching European Green Deal and also through the recently adopted 8th EU Environment Action Programme.

² https://european-union.europa.eu/priorities-and-actions/actions-topic/environment_en

- **Institutional framework of EU environmental policy and legislation**

The European Parliament plays a major role in shaping EU environmental law. During his 8th term he dealt with legislation arising from the Circular Economy Action Plan (on waste, batteries, end-of-life vehicles, landfilling, etc.), climate change issues (ratification of the Paris Agreement, effort sharing, land use accounting, land use change and forestry in the Union's climate change commitments, ETS reform, etc.) etc.

Parliament has repeatedly recognized the need for improved implementation as a key priority. In a resolution on "improving the delivery of benefits from EU environmental measures: building trust through better knowledge and responsiveness", he criticized the unsatisfactory level of implementation of environmental legislation in Member States and made several recommendations for more effective implementation, such as the dissemination of good practices between Member States and between regional and local authorities. During its 9th term, the European Parliament played a key role in debating the proposals presented by the European Commission as part of the European Green Deal, both by reacting to the proposals and by indicating the directions in which it wanted to see further ambition and action. In October 2021, Parliament adopted the amended Aarhus Regulation agreed with Member States to expand access to information, public participation in decision-making and access to justice in environmental matters.

The European Commission's Directorate-General for the Environment is the directorate responsible for EU policy in the field of environmental protection. The Directorate ensures that Member States apply EU law correctly and represents the EU on environmental issues at international level. The aim of this Directorate is to maintain and protect the environment for present and future generations, to protect biodiversity in an innovative circular economy where growth is decoupled from the use of resources.

The Environment Council (ENVI) of the Council of the European Union is one of the formations dealing specifically with environmental and other related matters. It is attended by the Ministers of the Environment or their representatives and is chaired by the Minister of the

Environment of the Member State holding the Presidency. At the technical level, the dossiers are discussed in depth in working groups as part of the preparatory bodies of the Council.

1. EU legislation in the field of environmental protection

EU environmental policy dates back to the European Council held in Paris in 1972, at which Heads of State and Government (following the first UN Environment Conference) declared the need for a community environmental policy environment accompanying economic expansion and called for a program of action. The Single European Act of 1987 introduced a new "Environment Title" which provided the first legal basis for a common environmental policy to preserve the quality of the environment, protect human health and ensure the rational use of natural resources. Subsequent revisions of the treaty strengthened the Community's commitment to environmental protection and the role of the European Parliament in its development. The Maastricht Treaty (1993) made the environment an official policy area of the EU, introduced the co-decision procedure and made qualified majority voting in the Council the general rule. The Treaty of Amsterdam (1999) established the obligation to integrate environmental protection into all sectoral policies of the EU with a view to promoting sustainable development. "Combating climate change" became a specific objective with the Treaty of Lisbon (2009), as well as sustainable development in relations with third countries.

Community environmental legislation aims to contribute, inter alia, to the preservation, protection and improvement of the quality of the environment and to the protection of human health, thereby contributing to sustainable development. According to **Art. 11 and Art. 191-193 of the Treaty on the Functioning of the European Union (TFEU)** the EU is competent to act in all areas of environmental policy - such as air and water pollution, waste management and climate change. According to Article 191, combating climate change is an explicit objective of EU environmental policy. Sustainable development is a key objective for the EU, which is committed to "a high level of protection and improvement of the quality of the environment" (Article 3 of the Treaty on European Union). The EU's scope of action is limited by the principle of subsidiarity and the requirement for unanimity in the Council in the areas of fiscal matters, urban and spatial

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



planning, land use, quantitative management of water resources, the choice of energy sources and the structure of energy supplies.

"Climate and Energy" legislative package adopted in 2008, the aim of which was to ensure the achievement of: 20% reduction of greenhouse gas emissions compared to their levels by 2020 since 1990; 20% share of energy from renewable sources in total energy consumption in the EU, including 10% share of biofuels in transport; 20% increase in energy efficiency. The 2030 climate and energy framework sets targets for reducing greenhouse gas emissions and increasing the share of energy from renewable sources and energy efficiency. The key elements of the 2030 policy framework established by the Commission are the following:

1. Mandatory target to reduce greenhouse gas emissions;
2. Mandatory Europe-wide target on energy from renewable sources;
3. Energy efficiency;
4. EU ETS reform: The Commission proposes the establishment of a market stability reserve at the start of the next ETS trading period — i.e., in 2021. Through this reserve, the problem of the surplus of emission allowances accumulated in the last few years will be solved, and the system's resilience to significant shocks will be improved by the introduction of automatic regulation of the supply of allowances for sale by auction;
5. Competitive, affordable and secure energy;
6. New governance system: The 2030 policy framework includes a new governance system based on national plans for competitive, secure and sustainable energy.

The framework builds on the existing climate and energy legislative package and its 2020 targets, as well as the Commission's roadmaps for developing energy and building a competitive low-carbon economy by 2050. The Communication on this framework was preceded by a Commission Green Paper of March 2013, which launched a broad public consultation on the most appropriate scope and structure of climate and energy targets for 2030. These documents reflect

the EU's 2050 target to achieve a reduction in greenhouse gas emissions by 80-95% below 1990 levels as part of the necessary efforts by developed countries.

The achievements of EU law (Acquis Communautaire's) in the environment cover a wide range of measures, mainly in the form of directives. In a broad sense, environmental legislation of the European Union covers the quality of environmental protection, pollution and other activities. In addition to horizontal issues (environmental impact assessment, access to environmental information, fight against climate change), quality standards for air, waste management, water, nature conservation, industrial pollution control, chemicals and genetically modified organisms, noise and nuclear safety and radiation protection (safety issues arising from the use of nuclear energy are part of the energy chapter).

The sections in the "Environment" sector follow *the structure of the Acquis Communautaire's*:

1) Horizontal legislation

It addresses environmental management issues rather than specific sectors, products and types of emissions. Directives in this sector concern the collection and evaluation of information on the environment and on the wide range of human activities affecting it.

2) Air quality

Legislation in this section contains legislation that affects the general assessment and management of air quality, such as the Framework Directive 96/62/EU on the assessment and management of ambient air quality (AQM) and its subsidiaries, setting standards for levels of relevant pollutants. The directive on atmospheric air pollution with tropospheric ozone also belongs to this group.

The section also includes acts related to control mechanisms for emissions from mobile sources, i.e., transport-related emissions from motor vehicles and fuels. Legislation on control mechanisms for emissions from stationary sources affects emissions from industrial installations and energy production, as well as emissions from waste incineration plants.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



Other legal acts of the EU in the "Air Quality" section refer to the obligations of the member states within the framework of international conventions in the field of transboundary air pollution, climate change and protection of the ozone layer.

3) Water quality

It is one of the most fully regulated areas of EU environmental legislation. The so-called "combined approach" has been adopted, according to which, when determining the requirements for the quality of waste water discharged into water intakes, both emission standards for permissible content of harmful and dangerous substances, according to the type of production and level of technology, and the requirements are applied to achieve the goals for water quality in water bodies - wastewater receivers. This approach is provided by the **Water Framework Directive 2000/60/EU**. European Union legislation in the "Water Quality" sector is divided thematically as follows:

- legislation aimed at ensuring and protecting water quality;
- legislation aimed at establishing emission controls;
- legislation intended to establish common rules for data monitoring and reporting.

4) Protection of nature

The EU's main principles in this area are cooperation to protect biological diversity, ensuring that habitats and species have a favored status; protection of rare, endemic, vulnerable and endangered species of wild flora and fauna in each of the Member States and in Europe as a whole; protection of habitats of Community importance that are threatened; cooperation in the preservation of certain rare or endangered species of flora and fauna in countries outside the EU by limiting trade in species.

1.1. The European climate law

The European Climate Law has been published in the Official Journal of the EU on 9 July 2021 and is in force from 29 July 2021. It gives legal form to the objective set out in the European Green Deal, namely to make Europe's economy and society climate neutral by 2050. The

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



European Climate Law also sets an interim target of reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. By 2050, "climate neutrality" means achieving net zero greenhouse gas emissions for EU member states mainly by ***investing in green technologies and protecting the natural environment***. The European Climate Law aims to ensure that all policies at EU level contribute to this goal and that all sectors of the economy and society are involved and play their part in achieving it.

The climate law includes measures to track progress and adjust actions accordingly based on existing systems such as the governance process or Member States' national energy and climate plans, regular reports from the European Environment Agency and the latest scientific evidence on amendments in the climate and its consequences. Progress will be reviewed every five years in line with the global inventory under the Paris Agreement.

1.2. REGULATION (EC) No. 1367/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on the application of the provisions of the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters to institutions and Community authorities

This Regulation contributes to the implementation of the Aarhus Convention in the institutions, bodies, services and agencies of the EU. The Aarhus Regulation extended Regulation (EC) No. 1049/2001 of the European Parliament and of the Council on public access to environmental information to all EU institutions and bodies. The Aarhus Regulation requires EU institutions and bodies to ensure public participation in the preparation, amendment or revision of plans and programs related to the environment.

Under the Aarhus Regulation, environmental NGOs and other members of the public who meet certain criteria can request an internal review of action (acts adopted) or inaction by EU institutions and bodies where they breach EU environmental legislation. The main rationale is to ensure accountability and ensure that all EU administrative decisions comply with EU environmental legislation. If this is not available, NGOs or other members of the public can submit

a review request. In addition, if they are not satisfied with the results of the review decision, they can challenge the decision before the Court of Justice of the European Union.

1.3. The Habitats Directive 92/43/EEC

This Directive is the main mechanism for the protection of European species of flora and fauna. It establishes frameworks for maintaining biological diversity through the conservation of natural habitats and wild flora and fauna.

1.4. Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage (the "Environmental Liability Directive")

The Liability Directive, which has been in force since 2007, establishes a comprehensive EU-wide liability regime for causing ecological damage to the environment, also establishing liability for taking preventive action on the part of those whose activities endanger the environment. The overall objective of the Directive is to prevent and fully restore damaged natural resources and their services to the state they would have been in if the damage had not occurred. The EU legislation related to the Environmental Liability Directive is Directive 2009/147/EC (Wild birds Directive), Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna (Habitats Directive), Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive), Directive 2008/56/EC establishing a framework for Community action in the field of marine policy (Marine Framework Directive strategy), as well as Directive 2010/75/EU on industrial emissions.

EU legislation also regulates the environmental impact of various projects financed with EU funds, such as construction and investment projects. The regulation is contained in directives, some of which are: **the Strategic Environmental Assessment (SEA) Directive**, which sets out a procedure to be followed in the assessment of a plan or program to which the procedure applies, as well as **the EU Directive on environmental impact assessment (EIA) (2011/92/EU, amended by 2014/52/EU)**, under which major building or construction projects in the EU must first be assessed for their impact on the environment. This is done before starting the project.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



5) Industrial Pollution Control and Risk Management

The directives and regulations in this section cover three areas: control of industrial emissions, control of the risk of major accidents involving hazardous substances, environmental audits and eco-labels.

The first area includes the Integrated Pollution Prevention and Control Directive (IPCC), the Directive on emissions from large combustion plants.

The second area covers the Seveso Directive 96/82/EC, named after a city in Italy where there was a significant accidental release of toxic gas some time ago. This Directive became a model for similar regulatory documents outside Europe.

The third area covers the Eco-Management and Audit Scheme (EMSA) and Eco-label regulations.

6) Chemical substances and genetically modified organisms.

This area concerns the testing and notification of chemical substances and preparations, on the one hand, and genetically modified organisms (GMOs), animal experiments, good laboratory practice and product control, on the other.

7) Noise from machinery and vehicles

Legislation in this area can be divided into 4 categories. Noise emissions from motor vehicles are covered by 2 directives that set standards for noise levels. Three directives limit noise emissions from aircraft, with reference to the Convention on International Civil Aviation. Noise emissions from household appliances are subject to the framework directive for household appliances, and from construction equipment to Directive 2000/14/EU on the noise emission level for equipment that works outdoors. In 2002, the Framework Directive on the control of noise in the environment was also adopted.

8) Nuclear safety

Pursuant to Art. 31 of the Euroatom Treaty, the European Union has adopted a number of directives and regulations that establish standards for the protection of the health of workers and



the population from the dangers arising from ionizing radiation. The main regulatory document is the **Framework Directive 96/29/Euroatom, called the Essential Safety Standards Directive**, which is supplemented by more specific legal instruments.

9) Waste Management

1.5. Directive 2008/98/EC on waste and repealing certain directives /Waste Framework Directive/

Directive 2008/98/EU establishes a legal framework for waste treatment in the European Union (EU). Directive 2008/98/EC had to be transposed into national law by 12 December 2010. The framework is designed to protect the environment and human health by emphasizing the importance of proper waste management, recovery and recycling techniques to reduce pressure on resources and to improve their use.

The Waste Framework Directive defines the main concepts and definitions related to waste management, including definitions of waste, recycling and recovery. **Hazardous waste** poses a greater risk to the environment and human health than non-hazardous waste and therefore requires a more stringent control regime. The Waste Framework Directive provides additional obligations for labelling, record keeping, monitoring and control from waste generation to final disposal or recovery. The directive also prohibits the mixing of hazardous waste with other categories of hazardous waste and with non-hazardous waste. The classification of hazardous and non-hazardous waste is based on **the system for the classification and labeling of hazardous substances and preparations**. This ensures that similar principles are applied throughout the life cycle of the materials.

In relation to the correct interpretation and application of the relevant EU legislation regarding the classification of waste, namely the identification of hazardous properties, the assessment of whether waste exhibits hazardous properties and its classification as hazardous or non-hazardous, **the Commission Notice - Technical guidance on the classification of waste (2018 /C 124/01)**. It aims to provide technical guidance on certain aspects of the Waste Framework

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

Directive and **Commission Decision 2000/532/EC on the list of waste** ("European List of Waste"), as revised in 2014 and 2017.

framework directive establishes **a waste hierarchy**:

- Prevention - includes measures that are taken before substances or objects become waste;
- Preparation for reuse – involves cleaning, inspecting and repairing used products that have become waste so that they can be reused. Preparation for reuse is a type of waste recovery;
- Recycling - in this approach, a material is processed in order to change its physicochemical properties, making it suitable for reuse for the same or other purposes. The main objective of the Waste Framework Directive is for the population of the EU Member States to become a "recycling society" that strives to avoid waste generation and use waste as a resource. Specific **waste management activities** in this regard include recycling materials and producing compost that meets product quality requirements;
- Other recovery (e.g., energy recovery) - any activity that meets the definition of "recovery" under the Waste Framework Directive that does not meet specific requirements for preparation for re-use or for recycling - such as incineration or co-incineration, when the main use of the waste is also as fuel or another way to obtain energy, as well as bulk activities meeting the definition of recovery;
- Disposal - this activity means landfilling, incineration or co-incineration when they do not meet the criteria to be defined as recovery, bulk activities meeting the definition of recovery.

This Directive **reaffirms the "polluter pays" principle**, according to which the original producer of waste must pay the costs of its management. It also introduces the concept of '**extended producer responsibility**', which includes a set of measures taken by Member States to ensure that producers of products bear financial responsibility or financial and organizational

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

responsibility for the management of the waste stage of the life cycle of the product. **Waste management** should be carried out **without no risk to water, air, soil, plants or animals**, without causing nuisance through noise or odors or harming nature or places of special interest. Competent national authorities must establish **waste management plans and waste prevention programs**. Certain types of waste such as radioactive elements, decommissioned explosives, fecal matter, waste water and animal carcasses are excluded from the scope of the Directive.

1.6. Amending Directive (EU) 2018/851,

The amending directive had to be transposed into national law by 5 July 2020. Directive (EU) 2018/851 as part of the circular economy package amends Directive 2008/98/EC. It sets out minimum operational requirements for extended producer responsibility schemes, which may include organizational responsibility and responsibility for contributing to waste prevention and the reusability and recycling of products. As regards waste generation, EU Member States undertake to take measures to:

- Support for **sustainable** production and consumption models;
- Promote the design, manufacture and use of products that are resource efficient, durable, repairable, **reusable** and upgradeable;
- Target products containing critical raw materials **to prevent these materials from becoming waste**;
- Promote the availability of spare parts, instruction manuals, technical information or other means **enabling the repair and reuse of products without compromising their quality and safety**;
- Reducing the generation of food waste as a contribution to the UN Sustainable Development Goal of **reducing global food waste per capita by 50% at** the retail and consumer level, as well as reducing food losses along the production and supply chains by 2030;
- Promotion of the **reduction of the content of hazardous substances** in materials and products;
- Stopping the generation of **marine litter**.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

Amending Directive (EU) 2018/851 also sets **new targets for household waste recycling**: at least 55% of household waste by weight must be recycled by 2025, with this indicator set to increase progressively every 5 years, as follows: up to 60% by 2030 .and up to 65% by 2035. In this regard, Member States should introduce **separate collection of textiles and hazardous waste** generated by households by 1 January 2025 and ensure that by 31 December 2023 **biological waste** is collected separately or recycled at source (e.g., by composting).

1.7. Regulation (EC) No. 1013/2006 on shipments of waste or Waste Shipment Regulation (WWW)

The waste transport regulation introduces into EU law the provisions of the Basel Convention and Decision C (2001)107/Final of the Organization for Economic Co-operation and Development (OECD). The waste transport regulation establishes the procedures, conditions and requirements that must be met for transboundary waste transport, including transport between Member States. According to Art. 34 and Art. 36 of the Regulation prohibits the export of waste for disposal outside the EU/EFTA, as well as the export of hazardous waste from the EU to countries to which the OECD Decision does not apply. The Regulation regulates **two procedures for control of waste transportation**: 1) procedure of general information requirements under Art. 18, which is generally applied to the transportation for the **recovery** of waste falling on the "green" list and 2) a procedure for **prior written notification and consent** for all other types of waste transportation.

1.8. Directive 1999/31/EC on the Landfill of Waste ("Landfill Directive")

The directive contains rules on the management, permit conditions, closure and aftercare of landfills.

1.9. Directive 2006/21/EC on the management of waste from extractive industries ("Mining Waste Directive")

The Mining Waste Directive aims to ensure that waste from mining industries is managed in a way that prevents or reduces as far as possible any negative impacts on the environment and the resulting risks to human health.

1.10. Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

The regulation is in force since 2007 is the general regulatory act for chemicals at the EU level and applies to substances on their own, in preparations and in articles. The aim is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods of hazard assessment of substances, as well as the free movement of substances in the internal market, while improving competitiveness and innovation. An important clarification is that according to Art. 2, paragraph 2 of the REACH Regulation, waste within the meaning of the Waste Framework Directive is not considered a REACH substance, preparation or article. The Regulation does not foresee direct obligations for the producers or holders of waste. However, the stage of waste generation should be reflected in the Chemical Safety Report that is provided as part of the registration dossier for substances that are manufactured or imported into the EU in quantities exceeding 10 tonnes per year.

1.11. Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures (EC Regulation)

KEO Regulation adapts for EU purposes the UN international system for classifying chemical substances (Globally Harmonized System - GHS). In this sense, the Regulation establishes detailed criteria for the assessment of substances and for the determination of their hazard classifications. And this Regulation makes a clarification in Art. 1, paragraph 3, that waste is not considered a substance, mixture or article, therefore the obligations under this Regulation do not apply to the generators or holders of waste.

1.12. Regulation (EC) No 850/2004 on persistent organic pollutants ("POP Regulation")

POPs Regulation aims to protect the environment and human health from certain specified substances that are transported across international borders, far from the source, remain in the environment and can bioaccumulate in living organisms, and the Regulation applies the relevant international agreements. The scope of the Regulation is limited to the substances listed in its annexes.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

1.13. Directive 2012/18/EU on the control of major accident hazards involving dangerous substances ("Seveso III Directive")

The Seveso II Directive aims to prevent such accidents and limit their consequences for man and the environment in order to consistently and efficiently ensure a high level of protection throughout the EU.

Despite existing legislation at EU level, household waste generation has increased over the last decade. Low recycling rates, as well as lower quality recycled materials, are due in part to inefficient waste collection systems. For some specific sectors (e.g., waste oils and textiles) it has been found that the polluter pays principle is not fully applied and that some waste is still illegally dumped, leading to environmental pollution.

The European Commission is currently working on a targeted revision of the Waste Framework Directive, having carried out a preliminary analysis in the context of an impact assessment. Based on this analysis and consultations with stakeholders, the Commission has defined the scope of the policy initiative for a targeted amendment of the Waste Framework Directive in 2023. The initiative will focus on policy options to achieve circular and sustainable management of textile waste with a view to the objectives set out in the EU Strategy for Sustainable and Circular Textiles. The initiative will also assess the feasibility of setting food waste reduction targets to meet the Union's commitments under the UN Sustainable Development Goals and the Farm to Fork Strategy and limit the impact of the food supply chain on the environment and the climate.

1.14. Summary of the specific principles of EU environmental legislation

- 1) Principle of **prevention** - aims to prevent damage to the environment, including protected species, natural habitats, water and soil. This principle requires Member States to take preventive measures to anticipate and avoid environmental damage before it actually occurs. The precautionary principle is applied in legislation and policy when the risk of environmental damage is clear.
- 2) **Precautionary principle** – a risk management tool that can be applied when there is scientific uncertainty about a suspected risk to human health or the environment



resulting from a particular action or policy. In this regard, the precautionary principle is always concerned with **potential harms** and serves to bind uncertain scientific information to political responsibility. The principle is applied globally in the fields of chemicals, food safety, air quality and climate change. An example of the strict application of the precautionary principle at the EU level is the Community policies on GMOs, making them some of the most restrictive in the world.

- 3) Polluter **pays principle** - this applies under the Environmental Liability Directive discussed above. The principle requires polluters to bear the environmental and social costs of their actions.
- 4) Principle of **priority removal at the source of environmental pollution** - it ensures that damage or pollution will be removed at its source. In the perfect case, the application of this principle will lead to the prevention of pollution by not being carried elsewhere.
- 5) Principle of **sustainable development** – it aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. In secondary legislation, sustainable development serves as a framework principle behind environmental protection objectives, either in specific legislation or integrated into other policies.

2. EU policies in the field of environmental protection

European environmental policy is based on the principles of precautionary measures and preventive actions, on the principle of priority removal at the source of environmental pollution, on the "polluter pays" principle, and on sustainable development. In this context, the harmonization measures which meet the requirements for the protection of the environment include, where necessary, an environmental protection clause which allows Member States to adopt temporary measures based on environmental rather than economic reasons, and which are subject to a control procedure by the Union. When developing its environmental policy, the Union shall take into account the available scientific and technical data, the natural conditions in the various areas of the EU, the potential benefits and costs of action or inaction, as well as the

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



economic and social development of the Union as a whole and the balanced development of its regions.

According to the European Environment Agency (EEA) report "**The European environment - state and outlook 2020, Knowledge for transition to a sustainable Europe**" (The European environment - state and outlook (2020), knowledge for the transition to a sustainable Europe) (hereafter SOER 2020) presents the Union with a unique opportunity in the coming decade to take global leadership in sustainability by addressing pressing sustainability challenges that require systemic solutions. Systemic change implies a fundamental, transformative and horizontal form of change that involves significant changes and reorientation of systems goals, incentives, technologies, social practices and norms, as well as knowledge systems and management approaches. As stated in SOER 2020, one of the most important factors underlying Europe's ongoing environmental and sustainability challenges is that they are inextricably linked to economic activities and lifestyles, in particular societal systems, which provide Europeans with goods such as food, energy and mobility. Ensuring policy coherence and full implementation of existing environmental policies will go a long way in helping Europe achieve its 2030 environmental goals and meet the UN's 2030 Agenda and its SDGs.

Environmental policy has recently been placed at the center of EU policy, with the European Commission launching the European Green Deal as a key driver of its economic growth strategy. In a Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the presentation of the European Green Deal of 11.12.2019, the European Commission renewed its commitment to addressing climate and environmental challenges, highlighting that they are the defining task of the current generation.³

³ Source: Communication from the Commission to the EP, the Council, the European Economic and Social Committee and the Committee of the Regions on the monitoring framework of the 8th Environment Action Programme: measuring progress towards the agenda's priority targets for 2030 and 2050 Mr.

2.1. Multiannual environmental action programmes

The Multiannual Environment Action Programs set the framework for future action in all areas of environmental policy. They are included in horizontal strategies and taken into account in international environmental negotiations.

Since 1973, the European Commission has issued Multiannual Environmental Action Programs which set out upcoming legislative proposals and objectives for EU environmental policy.

The Commission's report of 15 May 2019 on the ⁴evaluation of the 7th EDP concluded that the vision for 2050 and the priority objectives of the program are still valid: the 7th EDP has contributed to ensuring more predictable, faster and better coordinated action in environmental policy, and that the structure and enabling framework of the 7th EAP helped to build synergies, thereby making environmental policy more -effective and more efficient. It further stated that the 7th EDP envisaged the United Nations 2030 Agenda for Sustainable Development (hereinafter referred to as the "UN 2030 Agenda"), emphasizing the fact that economic growth and social well-being depend on healthy natural resources, that it has facilitated the achievement of the Sustainable Development Goals ('SDGs'), and that through it the Union has been able to speak with one voice on the world stage on climate and environmental issues, but also that the progress achieved in the field of nature conservation, health and integration considerations, related to the environment, in other policy areas is not sufficient. The report also concludes that the 7th EAP could have given more attention to social issues, building on the existing links between environment and social policy, for example with regard to the impact on vulnerable groups, jobs, social inclusion and inequality. Furthermore, the Commission's report notes that, despite the setting of increasingly ambitious environmental targets, environmental spending in Europe has remained constant for many years (around 2% of GDP) and that the failure to implement environmental legislation costs the Union economy around €55 billion per year in health and



direct environmental costs. The Commission's report also notes that the implementation of the 7th EDP could have been strengthened by a more rigorous monitoring mechanism.

At the end of 2020, the Commission tabled its proposal for the **8th Environment Action Program 2021-2030**. It reaffirms the EU's long-term vision until 2050 to ensure a good life within planetary boundaries.

The 8th Environment Action Agenda calls for the active engagement of all stakeholders at all levels of government to ensure that EU climate and environmental laws are implemented effectively. The program forms the EU's basis for achieving the **UN 2030 Agenda** and its **Sustainable Development Goals**. Building on the European Green Deal, the Action Program aims to accelerate the transition to **a climate-neutral, resource - efficient economy**, recognizing that **human well-being and prosperity depend on healthy ecosystems**.

Six priority goals until 2030 have been identified:

- 1) Achieving the goal of reducing greenhouse gas emissions by 2030 and climate neutrality by 2050;
- 2) Increasing adaptive capacity, strengthening resilience and reducing vulnerability to climate change;
- 3) Moving towards a regenerative growth model, decoupling economic growth from resource use and environmental degradation and accelerating the transition to a circular economy;
- 4) Pursuing a zero-pollution ambition, including for air, water and soil, and protecting the health and well-being of Europeans;
- 5) Protection, preservation and restoration of biodiversity and improvement of natural capital;
- 6) Reducing environmental and climate pressures related to production and consumption (especially in the fields of energy, industry, buildings and infrastructure, mobility, tourism, international trade and the food system).



The 8th Environment Action Program supports ***an integrated approach to the development and implementation of EU green policy***. Article 3 of the Program of Action sets out the enabling conditions necessary to achieve the priority objectives. Among others, it emphasizes the need to:

- Ø full implementation of existing legislation;
- Ø significantly reducing the material and consumer footprint of the Union;
- Ø achieving environmental justice;
- Ø increasing sustainable finance;
- Ø using economic and tax incentives to facilitate the transition to sustainability;
- Ø phasing out fossil fuel subsidies;
- Ø developing a summary dashboard "beyond GDP";
- Ø uptake and cooperation at all levels of policy-making between different levels of actors;
- Ø harnessing the potential of digitization;
- Ø ensuring that policy action is firmly anchored in the latest science and knowledge.

The transition to a welfare economy in which growth is accompanied by recovery is enshrined in the 8th Environment Action Program and is embedded in the priority goals for 2030 and 2050. To ensure this transition, it will be necessary The Union to develop a more holistic approach to policy-making, inter alia, through the use of a summary table that measures economic, social and environmental progress "beyond GDP". A set of indicators, as part of the Union's efforts to implement the UN 2030 Agenda, will summarize existing indicators and monitoring processes, while also providing information on the distance to the target, where possible, and ultimately this will serve as a policy summary to guide policymaking. Therefore, the development of such a set of indicators is included as an enabling condition in the 8th Environment Action Programme.

Impact assessments carried out in the context of the 8th Environment Action Program should take full account of immediate and long-term environmental and climate impacts, as part

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



of an integrated analysis of economic, social and ecological impacts, including cumulative effects and the costs of action and inaction in this regard. These impact assessments should be based on broad and transparent consultation. Within eight weeks of the end of a public consultation, the Commission should provide detailed feedback on the responses from the stakeholder consultations, distinguishing between the views of different types of stakeholders.

In line with the Commission Communication of 14 October 2020 entitled "Chemicals Sustainability Strategy - Towards a non-toxic environment", the 8th EAP should support the Union's efforts to promote the good governance of chemicals through international cooperation and partnerships, within bilateral, regional and multilateral forums, as well as in cooperation with third countries. In line with international commitments, the Union will ensure that hazardous chemicals banned in the Union are not produced for export, including by amending relevant legislation if and when necessary.

Both in the Union and globally, land and soil conditions continue to deteriorate as a result of a wide range of human activities, such as land mismanagement, land-use change, unsustainable agricultural practices, land abandonment, pollution, unsustainable forestry practices and soil sealing, and due to biodiversity loss and climate change, often in combination with other factors, thereby reducing the capacity of lands and soils to provide ecosystem services and functions.

Progress towards the recognition of the right to a clean, healthy and sustainable environment, as set out in **UNHRC Resolution 48/13**, is an enabling condition for the achievement of the priority objectives of the 8th EDP. The term "ecosystem approach", which was established under the UN Convention on Biological Diversity, is a strategy for the integrated management of land, water and living resources that promotes their conservation and sustainable use in an equitable way to help achieve a balance between the three objectives of the convention, namely the conservation, sustainable use and benefit-sharing of biological diversity.

As environmental policy is highly decentralized, measures to achieve the priority objectives of the 8th Environment Action Program should be undertaken at different levels of

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



government, i.e., at Union level as well as at national, regional and local level, with a collaborative approach to multi-level governance. Effective monitoring, implementation, enforcement and accountability are essential and effective governance is needed to ensure policy coherence. An integrated approach to policy development and implementation should be strengthened to maximize synergies between environmental, social and economic objectives, while systematically screening and, where appropriate, making systematic assessments of potential trade-offs between them, as and systematic assessments of the needs of vulnerable and marginalized groups. This integrated approach should meet the specific needs of all regions, including urban and rural areas and the outermost regions. Furthermore, access to environmental information, public participation in environmental decision-making and access to justice, including transparent engagement with and between public authorities at all levels of decision-making, non-governmental actors and the general public in accordance with the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the "Aarhus Convention") are essential to ensure the success of the 8th Environmental Action Program environment.

In this regard, on 26 July 2022, the Commission adopted a list of flagship indicators to monitor progress towards the EU's environment and climate targets as foreseen in the 8th Environment Action Programme. This monitoring framework will inform European citizens about the impact of EU climate and environmental policy and facilitate exchange between policymakers on where further efforts are needed to stay within the safe and fair limits of our planet. The main indicators follow the structure of the 8th Environmental Action Programme, which is based on the European Green Deal.

POINTER	PURPOSE	SOURCE ⁵
Climate change mitigation (<i>Article 2(2)(a)</i>)		

⁵ The organization responsible for data collection and methodology.

1. Greenhouse gas emissions (index 1990 = 100, in tons of CO ₂ equivalent)	Climate neutrality: reduction by 2030 of net greenhouse gas emissions by at least 55% compared to 1990 levels. ⁶	EEA
2. Greenhouse gas emissions from land use, land use change and forestry (LULUCF ⁷ , in tons of CO ₂ equivalent)	Climate neutrality: increase by 2030 the net removal of greenhouse gases by carbon sinks from the LULUCF sector to -310 million tonnes of CO ₂ equivalent ⁸	EEA
Adaptation to climate change (Article 2(2)(b))		
3. Climate-related economic losses (in billions of euros)	Economic impact of climate change: reducing total monetary losses from climate and climate-related events	EEA ⁹
4. Impact of drought on ecosystems (affected area in km ²)	Ecosystem resilience: reduction of area affected by drought and loss of vegetation productivity	EEA
Regenerative circular economy (Article 2(2)(c))		
5. Consumption of raw materials (in tons per capita)	Raw material footprint: significantly reduce the raw material footprint in the EU ¹⁰ by reducing the amount of raw materials needed to produce the products consumed in the EU by reducing the amount of raw materials needed to produce the products consumed in the Union	Eurostat
6. Total waste generation (kg per capita)	Waste prevention: significantly reduce the total amount of waste generated by 2030. ¹¹	Eurostat
Zero pollution and non-toxic environment (Article 2(2)(d))		
7. Premature death due to exposure to fine particulate matter (PM _{2.5}) (number of premature deaths)	Environmental impact on health: reduce premature deaths from air pollution by 55% by 2030 (compared to 2005 levels) ¹²	EEA

⁶ [Regulation \(EU\) 2021/1119](#) from 30 June 2021 (Climate Act).

⁷ Land use, land use change and forestry.

⁸ COM(2021) 554 final (Regulation on LLPs).

⁹ Based on data from RiskLayer.

¹⁰ 8th PDOS , Article 3, letter t).

¹¹ Circular Economy Action Plan (COM(2020) 98 final) and EU Action Plan: "Towards zero pollution in air, water and soil" (COM(2021) 400 final).

¹² Zero Pollution Action Plan (COM(2021) 400 final).

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

8. Nitrates in groundwater (mg NO ₃ /l and % monitoring stations with a value above 50 mg NO ₃ /l)	Clean water: reducing nutrient losses by at least 50% in safe groundwater resources	EEA ¹³
Biodiversity and ecosystems (Article 2(2)(e))		
9. Designated terrestrial and marine protected areas¹⁴ (% of total area)	Protecting nature: providing legal protection for at least 30% of the EU's land area and 30% of its sea basins by 2030 ¹⁵	EEA
10. Index of Common Bird Species (Index: 1990 = 100)	Biodiversity conservation: reversing the decline in populations of common bird species ¹⁶	EBCC ¹⁷ / BirdLife/RSPB/CSO
11. Forest connectivity (0-100 % ¹⁸)	Ecosystems in good health: increasing connectivity in forest ecosystems to create and integrate ecological corridors ¹⁹ and increase resilience to climate change	Collaborative Research Center
Environmental and climate pressures related to EU production and consumption (Article 2(2)(f))		
12. Energy consumption (in million tonnes of oil equivalent)	Energy efficiency: reducing energy consumption (primary and final) by at least 13% by 2030 compared to 2020. ²⁰	Eurostat
13. Share of energy from renewable sources in gross final energy consumption (in %)²¹.	Sustainable energy: at least [45 %] energy from renewable sources in gross final energy consumption by 2030. ²²	Eurostat
14. Percentage of circular use of materials (in % of total material use)	Sustainable industry: doubling by 2030 the ratio of circular use of materials compared to 2020. ²³	Eurostat

¹³ The EEA annual data will be validated against the data collected under the Nitrates Directive (data source: ENV/JRC) available every four years.

¹⁴ Nationally designated areas or Natura 2000 protected areas.

¹⁵ EU Biodiversity Strategy.

¹⁶ EU Biodiversity Strategy.

¹⁷ EBCC — European Bird Census Council, RSPB — Royal Society for the Protection of Birds, CSO — Czech Ornithological Society.

¹⁸ From "not connected" (0%) to "fully connected" (100%).

¹⁹ EU Biodiversity Strategy with reference to a trans-European nature conservation network and Commission proposal for a regulation on nature restoration (COM(2022) 304 final, 22.6.2022).

²⁰ The target reflects the announced REPowerEU plan (COM(2022) 230 final). Subject to a final agreement on the amended Energy Efficiency Directive (COM(2021) 558 final) and the renewable energy target subject to the amended Renewable Energy Directive (COM(2021) 557 final).

²¹ Including a breakdown by renewable energy sources.

²² See the footnote for indicator 12; the number will be adapted subject to a final agreement on the amended Renewable Energy Directive (COM(2022) 222 final).

²³ Circular Economy Action Plan ([COM\(2020\) 98 final](#)): "over the next decade".

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

15. Share of buses and trains in domestic passenger transport (% of total domestic passenger transport, expressed in passenger-kilometres)	Sustainable mobility: increasing the share of collective transport types (buses and trains).	Eurostat
16. Area for organic farming (% of used agricultural area in km ²)	Sustainable agriculture: by 2030, 25% of agricultural land in the EU to be cultivated organically ²⁴	Eurostat
Favorable conditions (Article 3)		
17. Share of environmental taxes in total tax revenues (in %)	Applying the polluter pays principle: increasing the share of environmental taxes in total tax revenue and social security contributions	Eurostat
18. Fossil fuel subsidies (in millions of euros) ²⁵	Applying the polluter pays principle: reducing environmentally harmful subsidies, in particular fossil fuel subsidies, with a view to their immediate phasing out	European Commission
19. Environmental protection costs (in billions of euros and % of GDP)	Financing the transition: increasing spending by households, corporations and governments to prevent, reduce and eliminate pollution and other forms of environmental damage	Eurostat
20. "Green" bonds (% of total bonds issued)	Sustainable investments: increasing green bond issuance to stimulate public and private financing of green investments	EEA ²⁶
21. Eco-innovation index ²⁷ Member States' performance compared to the EU average (EU = 100) and trend	Innovation for sustainability: scaling up eco-innovation as a driver of the environmental transition	Eco-innovation Observatory
A good life within the means of our planet (Article 2(1))		
22. Development of land (km ² per year)	Planet's Capabilities/Sustainable Land Use: No Net Land Use by 2050 ²⁸	EEA

²⁴ EU Biodiversity Strategy and Farm to Fork Strategy.

²⁵ The data is published in the Commission Staff Working Document accompanying the report on the State of the Energy Union (COM(2021) 950 final). From 2023 onwards, the data will be based on Member States' reports required under the Energy Union Governance Regulation and climate action.

²⁶ Based on Bloomberg Finance LP used in the Commission Staff Working Document on Monitoring Progress towards a Capital Markets Union (2021) 544 final/2).

²⁷ The index can be replaced to reflect new policy needs.

²⁸ EU Soil Strategy 2030 (COM(2021) 699 final).

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

23. Exploitation water index WEI+²⁹ (in %)	Planet's Opportunities/Sustainable Water Use: Reducing Water Scarcity ³⁰	EEA
24. Consumption footprint³¹ (based on life cycle assessment)	Sustainable consumption: significantly reducing the EU's consumption footprint ³² , i.e. of the impact of consumption on the environment	Collaborative Research Center
25. Employment and gross value added in the environmental industry (% of total economy)	Sustainable competitiveness: increasing the share of the green economy and green jobs in the whole economy ³³	Eurostat
26. SURROGATE INDICATOR Environmental inequalities	Environmental prosperity: reducing environmental inequalities and ensuring a just transition	

Table 1. Leading indicators for monitoring progress towards EU environment and climate targets.³⁴

The 8th Environmental Action Program calls for a monitoring framework that is robust while allowing for some flexibility. Accordingly, the Commission will consider proposing changes to the flagship indicators after the mid-term review in 2024 and the evaluation in 2029, particularly in view of the new indicators that will be available as a result of ongoing and future work.

2.2. European Green Deal

The European Green Pact was presented on 11/12/2019 through a Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions ³⁵. It represents a **package of political initiatives** whose aim is **to take the EU on the path to an ecological transition**, with the

²⁹ Information on the sectors covered and the temporal and spatial scale is published at https://ec.europa.eu/eurostat/cache/metadata/en/sdg_06_60_esmsip2.htm and

³⁰ <https://www.eea.europa.eu/data-and-maps/indicators/use-of-freshwater-resources-3/assessment-4>
Directive 2000/60/EC (Water Framework Directive).

³¹ This indicator combines the consumption intensity and environmental impact of representative products for five consumption areas, assessing the entire supply chain of the products (domestic and commercial) .
³² 8th NAP, Article 3, letter t) and Circular Economy Action Plan.

³³ For the definition, see https://ec.europa.eu/eurostat/cache/metadata/en/env_egs_esms.htm

³⁴ Source: Communication from the Commission to the EP, the Council, the European Economic and Social Committee and the Committee of the Regions on the monitoring framework of the 8th Environment Action Programme: measuring progress towards the agenda's priority targets for 2030 and 2050 Mr.

³⁵ Available at: https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0017.02/DOC_1&format=PDF



ultimate goal of achieving climate neutrality by 2050. The pact also aims to protect, preserve and increase the EU's natural capital as well as the protection of health and well-being citizens from environmental risks and impacts. At the same time, this transition must be fair and inclusive. He must put people first and pay attention to regions, the businesses and workers who will face the biggest challenges.

The European Green Deal emphasizes the need for a comprehensive and cross-sectoral approach where all relevant policy areas contribute to the ultimate climate goal. The package includes initiatives that cover climate, environment, energy, transport, industry, agriculture and sustainable finance, all of which are closely linked. The package aims to contribute to improving the well-being and health of citizens and future generations by ensuring:

- Ø Clean air, clean water, healthy soils and biodiversity;
- Ø Renovated energy efficient buildings;
- Ø Healthy food at affordable prices;
- Ø More public transport;
- Ø Cleaner energy and cutting-edge cleantech innovation;
- Ø More durable products that can be repaired, recycled and reused;
- Ø Future-oriented jobs and training to acquire the skills needed for the transition;
- Ø Sustainable and globally competitive industry.

In order to realize the European Green Deal, it is necessary to rethink clean energy supply policies in the areas of economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation and social benefits. To achieve these goals, it is important to increase the importance given to the protection and restoration of natural ecosystems, the sustainable use of resources and the improvement of human health.

A sustainable product policy also has the potential to significantly reduce waste. Where waste is unavoidable, its economic value must be recovered and its impact on the environment and climate change avoided or minimized. This requires new legislation, including targets and



measures to tackle excessive packaging and waste generation. In parallel, EU companies should benefit from a stable and integrated single market for secondary raw materials and by-products. This requires deeper collaboration across all value chains, as is the case with the Circular Plastics Alliance. The Commission will consider possible legal requirements to stimulate the market for secondary raw materials with mandatory recycled content (e.g., for packaging, vehicles, construction materials and batteries). In order to simplify waste management for citizens and ensure cleaner secondary raw materials for businesses, the Commission will also propose an EU model for separate waste collection. The Commission is of the opinion that the EU should stop exporting its waste outside the EU and will therefore review the rules on the transport and illegal export of waste.³⁶

EU Biodiversity Strategy 2030

The EU Biodiversity Strategy 2030 aims to help restore biodiversity in Europe by 2030. This will bring benefits for people, the climate and the planet.

Actions set out in the strategy include:

- ∅ expansion of terrestrial and marine protected areas in Europe;
- ∅ restoration of damaged ecosystems by reducing the use and harmfulness of pesticides;
- ∅ increasing funding for action and better monitoring of progress.

In October 2020, the Environment Council adopted conclusions on biodiversity endorsing the targets of the EU's 2030 biodiversity strategy.

Member States recognized the need to increase efforts by addressing the direct and indirect drivers of biodiversity and nature loss, and reiterated their call for full integration of biodiversity objectives into other sectors such as agriculture, fisheries and forestry.

Farm to Fork Strategy

³⁶ Ibid., p. 10



The Commission's Farm to Fork strategy aims to help the EU achieve climate neutrality by 2050 by reorienting the current EU food system towards a sustainable model.

In addition to food security and safety, the strategy identifies the following main objectives:

- ∅ providing sufficient quantities of nutritious food at affordable prices within the limits of the planet;
- ∅ ensuring sustainable food production;
- ∅ promoting more sustainable food consumption and healthy eating habits.

In October 2020, the Council adopted conclusions on the strategy supporting the goal of developing a sustainable European food system, from production to consumption.

Batteries and waste batteries

The Commission proposed to revise the existing rules on batteries and adopt new mandatory requirements for all batteries (industrial, automotive, electric car and portable) placed on the EU market.

Batteries are a key element of the transition to clean energy. The new rules will boost the competitiveness of European industry and production chains and ensure the availability of more batteries for the transition to zero-emission vehicles. The new rules will ensure that end-of-life batteries are properly collected and not disposed of in the environment. In this way, the toxic substances contained in the batteries will be prevented from being released into the environment and the waste of valuable materials that could be reused in the context of the circular economy will be drastically reduced.³⁷

The new proposal aims to cover the entire life cycle of batteries, from the manufacturing process to design requirements, as well as the "second life cycle", recycling and the incorporation of recycled content into new batteries.

³⁷Barbara Pompili, Minister for Environmental Transition



The Council adopted a common approach on the proposal on 17 March 2022. The Council's negotiating position maintains and strengthens the main elements of the Commission's original proposal, including the 'battery passport', strict limits on hazardous substances, the carbon footprint of batteries and the extended responsibility of the manufacturer.

EU Chemicals Sustainability Strategy

Chemicals are essential to modern living standards and the economy. However, chemicals can be harmful to people and the environment. In March 2021, the Council adopted conclusions endorsing the EU chemicals sustainability strategy presented by the Commission.

The strategy sets out a long-term vision for EU chemicals policy, with which the EU and the Member States want to achieve:

- ∅ better protection of human health;
- ∅ strengthening the competitiveness of industry;
- ∅ support for a non-toxic environment.

The strategy is an essential part of the European Green Deal and its ambition for zero pollution.

EU Plastics Strategy

The EU Program on International Ocean Governance has established a comprehensive framework to strengthen international ocean governance to ensure that they are safe, secure, clean and legally and sustainably used. One of the actions included in the Ocean Stewardship Program is the fight against marine litter.

In May 2018, the Commission proposed new EU-wide rules to apply to the 10 single-use plastic products most commonly found on Europe's shores and seas, as well as to lost or abandoned fishing gear. Together they make up about 70% of all marine litter.



Other plastics initiatives include measures to prevent unregulated dumping, to make the plastics sector a circular economy, to tackle pollution of the seas from marine sources of waste and to ensure better understanding and monitoring of marine litter.

 **A sustainable EU bioeconomy to strengthen the link between economy, society and environment**

The updated Bioeconomy Strategy will deliver 14 actions that will pave the way to building an innovative, resource-efficient and more competitive society that reconciles food security with the sustainable use of biotic renewable resources while ensuring environmental protection. The strategy will strengthen bio-based sectors and develop new technologies to add value to bio-waste, deliver benefits to rural communities and ensure that the bioeconomy works within ecological limits.

 **Strategy for forests and imports of products that do not lead to deforestation**

As one of the flagship elements of the European Green Deal, the EU Forest Strategy 2030, presented by the Commission in July 2021, builds on the EU Biodiversity Strategy and is a key part of efforts to reduce greenhouse gas emissions gases by at least 55% by 2030.

The proposed measures relate to:

- promoting sustainable forest management;
- providing financial incentives for forest owners and managers to adopt environmentally friendly practices;
- improving the size and biodiversity of forests, including by planting 3 billion new trees by 2030.

In its conclusions, approved in November 2021, the Council highlighted the essential role of forests for human health and the need to strike a balance between the environmental, social and economic aspects of sustainable forest management.

 **European Industrial Strategy**

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme. This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



The EU is counting on Europe's industry to lead the twin transition to climate neutrality.

The aim of the EU industrial strategy is to support industry in its role as an accelerator and factor for change, innovation and growth.

Following the publication of the Commission's new industrial strategy in March 2020, the Council adopted conclusions on the strategy in November 2020. In them, the ministers emphasized that the principles of sustainability, circularity and environmental protection should support the recovery from the COVID-19 pandemic.

The industrial strategy update published by the Commission in May 2021 aims to strengthen Europe's resilience and competitiveness. It seeks to enable European industry to play a leading role in environmental and digital transformation and to become the global driving force in the transition to climate neutrality and digitalization.

Circular Economy Action Plan

Decoupling economic growth from resource use and moving towards circular systems in production and consumption is key to achieving EU climate neutrality by 2050.

In March 2020, the Commission presented a new circular economy action plan, on which the Council adopted conclusions in December 2020. The conclusions also highlight the role of the circular economy in ensuring an ecological recovery from COVID-19.

The action plan sets out more than 30 action points on sustainable product design, circularity in production processes and giving more rights to consumers and public buyers. It covers industries such as electronics and ICT, batteries, packaging, plastics, textiles, construction, buildings and food.

A fair transition

Achieving climate neutrality by 2050 will be more challenging for some Member States and regions than for others. For example, some of them rely more on fossil fuels or have high-carbon industries that employ significant numbers of people.



The EU has introduced a Just Transition Mechanism to provide financial and technical support to the regions most affected by the transition to a low-carbon economy. It will help mobilize at least €65-75 billion in the period 2021-2027 for:

- people and communities - facilitating employment and retraining opportunities, improving energy efficient housing and fighting energy poverty;
- companies – making the transition to low-carbon technologies attractive for investment, providing financial support and investing in research and innovation;
- Member States and regions - investing in new green jobs, sustainable public transport, digital connectivity and clean energy infrastructure.

With a total budget of €17.5 billion, the Just Transition Fund is the first pillar of the mechanism. It provides tailored support to alleviate the social and economic costs of the environmental transition for fossil fuel-dependent regions and high-emitting industries. It supports investments in:

- SMEs and new enterprises;
- scientific research and innovation;
- clean energy and emission reduction technologies;
- retraining of workers and job search assistance.

A policy for clean, affordable and secure energy

As 75% of the EU's greenhouse gas emissions are due to energy consumption and production, the decarbonization of the energy sector is a very important step towards a climate-neutral EU.

The EU works at several levels to achieve these goals:

- ∅ supporting the development and uptake of cleaner energy sources such as marine renewable energy and hydrogen;
- ∅ promoting the integration of energy systems across the EU;
- ∅ development of interconnected energy infrastructure through EU energy corridors;



- Ø review of current legislation on energy efficiency and renewable energy, including their 2030 targets.

2.3. Paris Agreement

The EU and all its member states have signed and ratified the Paris Agreement and are strongly committed to its implementation. In line with this commitment, EU countries have agreed to chart a course that will make the EU the first climate-neutral economy and society by 2050.

In line with the requirements of the Agreement, the EU presented before the end of 2020 its long-term emissions reduction strategy and its updated climate plans, committing to reduce EU emissions by at least 55% by 2030 compared to with 1990 levels.

As a global problem, climate change requires the countries of the world to work in a spirit of cooperation. In 2015, world leaders agreed on ambitious new targets to combat this phenomenon.

The Paris Agreement contains an action plan to limit global warming. Its main elements are:

- ✓ long-term goal - governments agree to keep the rise in global average temperature well below 2°C above pre-industrial levels and to work towards limiting it to 1.5°C;
- ✓ contribution - before and during the Paris conference, countries submitted comprehensive national climate action plans (called nationally determined contributions) to reduce their emissions;
- ✓ ambition – governments have agreed to present their action plans every 5 years, with each subsequent plan having to contain even more ambitious goals;
- ✓ transparency - to ensure transparency and oversight, the parties agreed to report both to each other and to the public on how well they are doing in achieving their goals;



- ✓ color: inherit; solidarity – EU Member States and other developed countries will continue to provide climate action finance to help developing countries to both reduce emissions and build resilience to the effects of climate change the climate.

The Paris Agreement entered into force on November 4, 2016, when the condition that it be ratified by at least 55 countries responsible for at least 55% of total greenhouse gas emissions was met. All EU countries have ratified the agreement.

2.4. United Nations Framework Convention on Climate Change

The EU is a party to the United Nations Framework Convention on Climate Change (UNFCCC), which is the main international agreement on climate action. The Paris Agreement was adopted at the UNFCCC meeting of the parties in 2015.

The UNFCCC is one of three conventions adopted at the Earth Summit in Rio in 1992, where the international community recognized the need for collective action to protect people and the environment and limit greenhouse gas emissions. The Convention has been ratified by almost all countries of the world.

In the mid-1990s, UNFCCC signatories realized the need for stricter regulations to reduce emissions. In 1997, they concluded the Kyoto Protocol, which introduced legally binding emission reduction targets for developed countries for the first time. The Kyoto Protocol expired in 2020.

With the Paris Agreement, countries renewed their commitment to climate action and agreed on new targets to accelerate efforts to limit global warming.

IV. Comparative legal analysis of waste management legislation. Legal evaluation of the legislation in the field of waste management in the cross-border region Bulgaria-Serbia.

1. Legal evaluation of the legislation on waste management in the cross-border region BG-RS



1.1. Waste Management Legislation in Serbia

Law on Environmental Protection of the Republic of Serbia

The first Law on Environmental Protection of the Republic of Serbia was adopted in 1991, being the first special law that comprehensively and thoroughly regulates the main issues of environmental protection. This law marks the beginning of a number of subsequently adopted normative acts, as it is fundamental for the more serious approach to the issues related to the regulation of the protection of the environment at the national level.

In 2004, a new Law on Environmental Protection was adopted (Official Gazette of RS, No. 135/2004), which, in continuation of the previous one, outlined a new legal framework in the field of environmental protection, the final conclusion of which was set with the adoption of the Law on Waste Management (Official Gazette of the RS, No. 36/2009). Subsequently, sixteen more normative and by-laws were adopted.

The Environmental Protection Act provides for a ban on the free import of hazardous waste, which is placed under special regulation. Permits for import, export and transit of waste are issued by the Ministry of the Environment and Territorial Planning in accordance with the law and other normative acts. Serbia has ratified and is a committed member of the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal.

The beginning of 2016 marked a turning point in Serbian legislation in the field of environmental protection and waste management, marking the beginning of a serious reform of the legislation of the Republic of Serbia with a view to its adaptation to European standards in these areas.

After the European Commission announced the lack of regulation in the field of ecology and environmental protection as a major drawback in the process of joining Serbia to the EU, environmental protection and waste management began to occupy a leading place among the country's priorities.



The Republic of Serbia applies the principle of subsidiary responsibility, as well as the principle of solidarity, according to which both the polluter and the user pay. (State Gazette of the RS, No. 14/2016, Art. 21)

National waste management strategy

The first adopted National Strategy for Waste Management was in 2003, which program period was outlined between 2003 and 2009. After the end of the period, in 2010 the next, second National Strategy for Waste Management was adopted, in which contains an estimate for the previous period. The analysis of what was done in the period 2003-2009 shows that the results are significantly lagging behind the goals outlined in the Strategy, with most of the planned goals not being realized at all, and another part being realized only at the local level as a result of the activity of the municipal administration bodies; third measures were implemented with great delay. Thus, with the National strategy for waste management for the period 2010-2019, the goal of achieving compliance with the EU goals for waste management is placed in a central place. A serious shortcoming of this National strategy for waste management is that, although it defines individual goals, it lacks a description of the ways in which these goals can and should be achieved. Another shortcoming of the Strategy is the lack of economic instruments aimed at stimulating waste producers to change their practices towards the planned goals.

There is an adopted Waste Management Program in the Republic of Serbia for the period 2022-2031 ("Official Gazette of the Republic of Serbia", issue 12 of February 1, 2022), which initiates the process of creating a waste management system and its adaptation to the objectives and acquis of the EU. Program for waste management in the Republic of Serbia for the period 2022-2031 is part of the negotiations of the Republic of Serbia for admission to the EU,

During the previous period, when the National Strategy 2010-2019 was in force, progress was made in harmonizing the legislation in the field of waste management with the EU legislation, in institutional strengthening and reaching regional agreements to create joint waste management, as well as in the construction of a number of sanitary landfills. The objectives set

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



out in the Strategy regarding organized waste collection, the degree of primary separation and recycling of waste, the construction of infrastructure and the cessation of the disposal of waste in landfills without the necessary levels of hygiene, the application of economic instruments and the creation of system for sustainable financing of waste management. As the planned objectives of the previous planning document have not been fully achieved, and as new EU waste management targets have been set in the meantime as part of the "green transition", it is necessary to set new waste management targets in Republic of Serbia.

The program establishes strategic goals for the improvement of the waste management system and the basic principles that should guide all waste management actors to achieve these goals in the Republic of Serbia for the period 2022-2031

The implementation of this program, in addition to reducing the harmful impact on the environment and climate change, should allow the realization of prerequisites for the use of waste in a circular economy, whose development goals and measures are defined in a separate program. Special documents are also being prepared for the establishment of a sewage sludge management system and for dealing with animal by-products. The management of agricultural, mining and medical and pharmaceutical waste is planned in sectoral planning documents.

Administration

Competences in the field of waste management are distributed at the national and municipal level. The main responsibility for waste management is assigned to the Ministry of Environment and Spatial Planning. The main characteristic of waste management legislation is that it does not cover all aspects of waste management within the existing provisions of legal acts (normative and by-laws). Waste Management Department is part of the "Environmental Planning and Management" department at the Ministry of Agriculture and Environmental Protection. The Waste Management Department is responsible for the preparation of the national strategy and the National Waste Management Plan (NWMP), as well as for the preparation of specialized plans for special types of waste. It also drafts by-laws (regulations and standards) to implement the waste management law. The Ministry approves regional waste management plans, with the

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



exception of plans on the territory of the autonomous province of Vojvodina. The Ministry also issues permit of national importance and keeps records of them, as well as maintains an archive of permits issued by regional and local authorities. Each municipality is responsible for preparing a local waste management plan and creating conditions for its implementation. The municipality is responsible for the provision of household and safe waste services, and has the power to determine the fees paid by the population for these services. Also, the municipal administration issues permits and other types of documents specified in the Waste Management Act for waste activities on its territory, maintains registers of issued and expired permits and provides waste data to the Ministry.

Waste Management Law of the Republic of Serbia

The issues related to waste management, which are regulated in the law, refer to:

- the assessment of the impact on the environment;
- emission limits;
- quality standards;
- waste management;
- waste disposal sites;
- the classification, packaging and care of secondary raw materials;
- communal activities

It should be noted that the current legislation is not in accordance with the EU legislation and it is not fully applied for now, and in the next program period 2022-2031 a number of legislative changes are coming, which will bring the legislation in the area as close as possible to the European one.

As part of the unification of the legislation with the European legislation, the changes to the Law on Waste Management were adopted with the Law on Amendments and Supplements to the Law on Waste Management (Government *Gazette of the RS*, No. 14/2016). This is the first major change in the law since 2010. It is accepted that there are four types of waste, as indicated and their classification; waste management planning is scheduled; interested parties are

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

indicated; specific duties and responsibilities regarding waste management are defined; it is defined what the management of the specific waste streams should be; the requirements and procedure for issuing permits for transboundary movement of waste are described. Regulation also receives the financing of waste management; supervision and other essential aspects of waste management are formulated.

The rights and obligations of the environmental inspectors also acquire a normative appearance, as they receive more powers. The inspector has the right to order the producers of waste to hand it over to an authorized person who has the right to dispose of or treat waste. The inspector can order the closure or remediation of a landfill, prohibit the disposal or treatment of waste, or order the separate collection of waste. The Waste Management Act is supported by a number of by-laws that regulate the specifics of waste categorization and reporting, waste incineration, transboundary movement of waste and waste disposal.

The Waste Management Law Amendment Acts have several important objectives:

- Giving an accurate and precise definition of concepts such as *waste*, *waste management facility*, *waste decontamination*, *waste landfill*, *waste preparation and reuse*, *waste creator*, *secondary raw materials*, waste management and treatment.
- Normative establishment of the possibility of reuse of waste and its further use.
- Further development of the reporting system and the register in the field of waste management.

Waste Framework Directive (2008/98/EC)

The Waste Framework Directive sets out measures to address the adverse impact of waste generation and management on the environment and human health, and to improve the efficient use of resources, which are crucial for the transition to a circular economy.

The Republic of Serbia is making great efforts to align its legislation with European legislation and in particular with the EU Waste Framework Directive (2008/98/EC). Treating by-products as secondary raw materials is paramount to the recycling activity, thus metals, non-ferrous metals, plastics, glass and paper no longer have the status of waste. In this way, Serbia can get rich by using this waste instead of dumping it. The waste management accounting system

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



created with the adoption of this law is constantly being improved through the aforementioned amendments to the regulations, as well as new ones to be adopted during the new program period.

The changes are aimed at increasing the number of reports on the movement of waste and its recycling, as well as the application of modern information technologies, through the creation of online registers and databases for waste that can be accessed via the Internet.

The information system for waste management in Serbia is legally provided for in the Ordinance on daily records and annual waste reports. An Instruction has been issued to the regulation, which defines both the main methods and means of reporting on a daily and annual basis.

With the development of a legislative framework based on the EU's waste management policy, Serbia opens a new page of upsurge and intensive development in the field. There is an opportunity for engagement and participation of the private sector, insofar as there is a tendency for waste management to be concentrated in separate geographical areas of the country. However, the development of the necessary infrastructure lags behind, the main reason for which is the lack of sufficient local sources of financing and too strong dependence on foreign investment.

Waste Management

Waste management consists of activities that include the implementation of prescribed action plans to be carried out within the framework of the collection, transport, storage, treatment and disposal of waste, including through the exercise of supervision in relation to the listed activities and responsibility for the waste management facilities upon their closure.

In relation to waste management, the Republic of Serbia has a number of adopted strategic documents: the National Strategy for Sustainable Development; The National Program for Environmental Protection, which defines the strategic objectives of the environmental protection policy, as well as specific objectives for environmental protection (air, water, soil) and the impact of certain sectors on the environment (industry, energy, rural farm etc.)

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

The main provisions that regulate waste management in the Republic of Serbia are the following:

- Law on Ratification of the Basel Convention on Transboundary Movement of Hazardous Wastes and Their Disposal (State Gazette of the FRY, International Treaties, No. 2/99)
- Environmental Protection Law (Official Gazette of the Republic of Serbia, No. 135/04 and 36/09)
- Law on the strategic assessment of the impact on the environment (State Gazette of the RS, No. 135/04)
- Law on environmental impact assessment (State Gazette of the RS, no. 135/04 and 36/09)
- Law on Complex Prevention and Control of Pollution (State Gazette of the RS, No. 135/04)
- Waste Management Law (Official Gazette of RS, No. 36/2009);
- Law on the Management of Packaging and Packaging Waste (Official Gazette of RS, No. 36/09);

Radioactive waste

Regarding radioactive waste, there is a special regulation, and the Serbian Agency for Radiation Protection and Nuclear Safety is responsible for its implementation. The Agency adopts a Radioactive Waste Management Program. Part of the authority of this Agency is to issue a license for the operation of a repository for radioactive waste; issues a license for radiation practices, which may include a permit for temporary storage of radioactive waste on the premises of the legal entity producing the waste.

The Ordinance on Radioactive Waste Management (OG 60/11) prescribes the methods for temporary storage at the site of radioactive waste generation; the conditions under which radioactive waste is stored, collected, described and processed. The Ordinance also provides regulation for keeping records of radioactive waste and deadlines for the transmission of the records to the Serbian Agency for Radiation Protection and Nuclear Safety. Radioactive waste is regulated by the Ionizing Radiation Protection and Nuclear Safety Act.

Management of other products (old vehicles, tires, construction waste, etc.)

Regarding end-of-life vehicles in the Republic of Serbia, there is an adopted and effective Regulation on the manner and procedure for managing end-of-life vehicles ("Official Gazette of the Republic of Serbia", No. 98/2010). This regulation applies to vehicles and end-of-life vehicles, as well as their components and spare parts.

- **Regulations on the manner and procedure for tire waste management**

Tire waste management includes a range of measures such as collection, transport, storage and treatment of tire waste. Waste tires are managed in a way that ensures the protection of human health and the environment. Used tires cannot be disposed of in landfills.

- **Regulations on the manner and procedure for the management of used batteries and accumulators**

Regarding this type of waste, there are regulatory requirements in the Republic of Serbia regarding the way batteries and accumulators are labeled according to the hazardous materials they contain. Normatively, the methods and procedures for managing waste from batteries and accumulators, as well as devices with built-in batteries and/or accumulators, are also prescribed.

Waste collection

The Ministry of Agriculture and Environmental Protection, regional and local authorities issue permit for the collection, transportation, temporary storage, treatment and disposal of waste.

The Ministry is responsible for issuing permits for the management of hazardous waste, as well as permits for activities that extend beyond the territory of a municipality.

Waste recycling is set as a goal at the national level, but the separate collection of waste is the sole responsibility of the municipalities, which organize the latter at their discretion.



Waste management activities are under a permit regime, and Serbia has developed a system that improves control over the transboundary movement of waste. The transboundary movement of waste is regulated in accordance with the Basel Convention, which has been ratified by Serbia.

There are the following by-laws regulating the movement of waste: Ordinance on the format of the waste movement document and the Instructions for its completion (*State Gazette of the RS*, No. 114/2013) and the Ordinance on the format of the document on the movement of hazardous waste and the instructions for filling it in (*State Gazette of the RS*, No. 114/2013).

The Law on Transportation of Hazardous Substances (149-152) prohibits the importation of hazardous waste from abroad that is intended for permanent or temporary disposal on Serbian territory. The persons who have an obligation to ensure the safe transportation of hazardous substances are defined and these are the owner or the importer of the waste. For the transport of hazardous waste, it is necessary that the vehicles, as well as their drivers, must hold appropriate ADR licenses, with the additional obligation to report the exact route of movement of the hazardous material to the Ministry of Agriculture and Environmental Protection. The Ministry issues permits for the export, import and transit of waste. The Waste Management Act stipulates that prices for waste management services must be cost-based. For the development of waste management infrastructure, earmarked funds are considered the main source of funding. These earmarked funds are revenues from the Environmental Protection Fund, funds in the budget of the Autonomous Province of Vojvodina, funds of local self-government units, loans, donations and funds of legal and private entities that manage waste, fees and other sources of funding.

Special waste streams are regulated according to the principle of producer responsibility, setting specific requirements for the collection and recovery of different types of batteries, accumulators, tires, electronics and end-of-life motor vehicles, as well as packaging waste.

Taxi waste



The only economic tool in waste management used in Serbia is the charging of consumers for the provided waste collection and disposal services. Household waste fees ("garbage" fee) are calculated per square meter of residential or commercial area. Usually, the collection of waste fees is carried out by the establishments that deal with the collection, transport and disposal of waste. The fees from the households are collected monthly, allowing their collection together with the bills for the used utility services (electricity, water).

The Waste Management Act introduced the principle of producer responsibility for products that, in whole or in part, become special waste after use. Producers of such products are charged a fee for placing the product on the market, and the amount collected upon payment of the fees serves to cover the costs associated with recycling the product when it becomes waste. Such a fee is levied, for example, on manufacturers and importers of motor vehicle tires, asbestos-containing products, batteries, accumulators, passenger cars, etc.

- **White palanquin**

The municipality of Bela Palanka is located in the southeastern part of the Republic of Serbia. Bela Palanka is an administrative economic, cultural, educational and health center (See Map 1 in the Appendices).

According to the 2011 census, the population of Bela Palanka municipality is 12,126 people. The density is 23.45 people/ km²³⁸

Municipal waste or household waste does not fall under the heading of "hazardous waste" because its contents have usually been processed in some way by man before its final disposal. Packaging represents a significant part of household waste. Another essential component is the waste obtained as a result of food preparation - these are peels and skins of fruits and vegetables, leftovers and scraps of meat, egg shells, bones. This type of waste is not recyclable.

38 *Municipalities and regions in the Republic of Serbia, 2012* . Belgrade. Republic Institute of Statistics. 2012, p. 62



The household waste category also includes batteries and other electrical materials that are contained in some waste, as well as buckets with leftover paint, oil, household chemicals, lighters, etc. Although this type of waste represents a very small percentage of the total household waste, it creates problems because it covers the characteristic of hazardous waste, and the procedure for their recycling usually costs a very large resource and turns out to be almost impossible.

This is precisely what necessitates the introduction of control in relation to household waste management, as well as the development of a waste management methodology ensuring environmental protection.

When we talk about waste management, the most essential element of it is the way in which the garbage is collected. At the moment, the company responsible for the collection of garbage in Bela Palanka does not have enough equipment to deal with the situation, as there are unregulated dumps where waste is piled up indiscriminately, garbage containers are overflowing and are not cleaned regularly and in a timely manner. Not enough vehicles are available, and the ones that are available have to be repaired frequently due to depreciation. Untimely collection, transportation and improper disposal of household waste has an adverse effect on the environment: it pollutes the air, poses a risk to human health; can lead to a reduction in arable land due to soil and groundwater contamination.

In waste management, the leading principle is to reduce the generation of waste at the source, with a view to reducing waste in general.

Another principle that occupies a central place is the principle that household waste is separated into different components in the households themselves. For example, it is possible for citizens to separate household waste in their homes into those that can be recycled, those that can be reused, food and organic waste, paper, plastic, glass bottles, metal cans. Citizens are also encouraged to separate the waste from the noise, grass, branches so that it can be burned in an appropriate order.



It should be pointed out that in the absence of sufficient will on the part of the citizens, the separation of waste can also take place at a later stage, with the separation being organized by the communal company responsible for waste management.

Household waste is disposed of in specially marked containers. These can be metal containers or plastic buckets or plastic sacks. In large settlements, as well as in large business buildings, there is a centralized system for collecting waste in large containers.

In cities, compacted waste is deposited in special trucks that have special devices for additional compaction, which increases the capacity of portable waste to the industrial landfill.

Another important principle in waste management, and in particular for reducing the amount of waste, is the additional moistening of those wastes that can be recycled

The separation, recycling and processing of household waste can have a major impact on the economy of a developing country. All activity related to recycling, including transport, requires additional involvement of workers, which in turn leads to an increase in the standard of living of workers in this area.

That part of the waste that is subject to rotting - mainly food scraps - can be used to create compost. In this case, the waste is deposited in piles that are turned periodically. Composting is also possible at home, which has recently become very popular. However, it should be noted that not every household waste can be the basis for good compost. For example, citrus peels and banana peels are not suitable waste for creating compost, as they do not undergo a rotting process, but rather mold growth.

The previous practice in waste management was to dispose of household waste in specially designated landfills. With the change of socio-economic relations, the composition of waste also changes, and it is common to see the appearance of local landfills, where people illegally dump wood and charcoal waste, branches, grass and other types of garbage.

To date, the increase in the amount of waste is already a fact, which requires a stronger and conscious care for the environment. This, in turn, requires the collection, transportation,

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



treatment, and disposal of waste using modern methods. In order to increase the capacity of landfills, special machines are installed that compress the waste to take up less space. Waste is piled high on top of each other also to save space. Among the modern requirements is covering the waste with suitable inert materials that prevent the participation of pests, flies, birds and other predators that could carry germs and harmful substances from the waste.

Certain components of household waste can be degraded naturally by introducing additional liquid, moisture, which also speeds up the process. At first, the decomposition is aerobic and hydrogen and carbon dioxide are burned as by-products through the waste mass, resulting in by-products such as methane and carbon monoxide. Given that methane is flammable and can be explosive in a confined space, special measures must be taken to ventilate the landfill.

Simultaneously with the production of methane, new organic compounds are also created. A large part of them dissolves in water and forms a discharge in the landfill. In any case, it is of the utmost importance to prevent the discharge of waste water from the landfill, as well as to provide protection in a way that does not allow it to mix with the ground water.

In the new program period, it is planned to start the operation of the regional depot on the territory of the municipality of Pirot, in the area of Muntina Padina. The waste from four municipalities in Pirot district will be deposited in the regional case: Pirot, Babushnica, Dimitrovgrad and Bela Palanka. After establishing the operating regime of the regional landfill, all municipalities are obliged, according to the provisions of the Waste Management Act, to cease operation of their local landfills.

In the new programming period, the Bela Palanka Local Waste Management Plan envisages encouraging citizens to minimize waste. Among other objectives of the plan are the extraction of useful ingredients from the waste and its reuse; modern treatment of industrial waste; final disposal of waste residues at the landfill itself.

At the local level, on the territory of the municipality of Bela Palanka, there is a Local Waste Management Plan and an Implementation Plan for the introduction of primary separation of household waste.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

The local waste management plan is a basic document that provides conditions for rational and sustainable waste management at the municipal level.

The plan is adopted for a period of 10 years, and its long-term goal is to solve problems in the field of environmental protection and improve the quality of life of the population by ensuring the desired ecological conditions and preserving nature through sustainable management of the environment and waste.

Special purposes in waste management

The specific objectives of waste management are:

1. Rational use of raw materials and energy and use of alternative fuels from waste;
2. Reducing the risk of landfilled waste for future generations;
3. Engaging national knowledge and local economic potential to build a waste management system;
4. Implementation of a more effective administrative and professional organization;
5. Provision of a stable financial resource and incentive mechanisms for investments and implementation of activities on the polluter pays or the user pays principle;
6. Implementation of an information system that covers all flows for the amount and location of waste, facilities for treatment, processing and use of waste materials and facilities for waste disposal;
7. Increasing the number of residents covered by the household garbage collection system;
8. Creation of local standards for waste treatment;
9. Waste reduction, reuse, recycling and waste regeneration;
10. Reducing the risk of waste by applying best available practices and substituting chemicals that pose a risk to the environment and human health;
11. Developing public awareness at all levels of society regarding the waste problem;

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

12. Sustainable waste management.

Industrial waste

There is very little data on industrial waste. The registration of production waste is not carried out systematically and in accordance with the legal provisions. Industrial waste refers to all waste materials and by-products generated during certain technological processes.

Data on industrial waste generators are obtained entirely through self-reporting, i.e., the goodwill of the waste producer is relied upon. A number of producers regularly provide data on the amount of waste generated to the competent environmental inspection, but the total number of producers and the amount of waste in Serbia is unknown.

The lack of a system of national laboratories for the disposal of hazardous waste creates problems and prevents the identification and control of hazardous waste. The predominant method of treating industrial waste is temporary storage within the landfill, but this is not a long-term solution.

Production waste is deposited in certain places in factories and production areas, and the rest is disposed of together with household waste at city landfills. The main methods of dealing with hazardous waste are storage and disposal. The analyzes carried out up to this point show that the capacity of the places where this type of waste is stored is significantly exceeded and does not meet the requirements of the national legislation on waste, as well as the Rules for working with waste possessing the properties of hazardous substances ("State Gazette of the RS", No. 12/95).

Industrial companies manage their own landfills and do not keep accurate records of the volume of waste generated, whether it is current production or past waste production.

The accumulation of waste poses a huge threat to the environment, especially to drinking water sources, which necessitates a solution to this problem. On the territory of the Republic of Serbia, there are no hazardous waste treatment facilities.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



Every waste generator, in this case industry, is obliged to store its waste in accordance with the regulatory requirements. Each waste generator is obliged to characterize and categorize the waste by type and, depending on its nature, to treat it according to the legal provisions. Hazardous waste must be disposed of in a special way according to its characteristics and must not be disposed of in a municipal waste dump, as this poses huge risks to the environment and water.

A permit for landfilling, temporary storage, export or incineration of waste is issued solely by the Ministry of Environmental Protection. The fact that there are no built-in facilities for incineration or disposal of hazardous waste requires that the majority of hazardous waste be temporarily stored at the sites of the producing company or exported abroad.

Simimpeh ", a company for the production and processing of meat and "Pavle", a company for the production of children's shoes. Other enterprises were sold in the privatization process, but none of them are currently operating.

Scrap

Waste in Serbia that can be used directly or through processing or recycling is called secondary raw material. The recycling and reuse license is obtained from the Recycling Agency and the permit from the Ministry of the Environment. The company that carries out garbage collection, recycling, transport of waste and secondary raw materials is obliged to store data on the types, quantities and sources of waste and to transmit this data to a special state institution.

Dangerous waste

Hazardous waste is collected in temporary warehouses, prepared for processing and transportation and arranged in specially secured premises. Hazardous waste temporary storage facilities shall be constructed to accommodate at least twice the amount of hazardous waste generated on average between two processing cycles, i.e., transportation to ensure their protection from external influences.

Medical waste



There is insufficient data on the generation of medical waste in Serbia, regardless of whether it is biohazardous medical waste or general waste from healthcare institutions. It should be noted here that there is no mechanism to separate this waste at the source, and there is no special place to deposit this type of waste and it is dumped together with other household waste at the landfill. This poses serious risks for environmental and groundwater pollution.

Currently, there are no precautions or procedures in place for the handling, transportation or disposal of medical waste, which should be worked on in the coming years.

Animal waste

Animal waste is classified into three categories:

1. Carcasses of animals infected with "rabies", "mad cow" and the like;
2. Remains of animals or medicines used in veterinary medicine;
3. Remains of dead healthy animals, parts of slaughtered animals used for commercial purposes, hides, bones, etc.

The existing carriages are not particularly well equipped, which necessitates taking specific actions on their reconstruction and renovation. It is necessary to take steps to build collection points for this type of waste, to which there are built places for temporary storage.

Currently, animal carcasses and waste of animal origin are buried in the livestock cemetery. The grave can be used again after 10 years from the day of the last act of burying waste.

On the territory of the municipality of Bela Palanka there is a place intended for the disposal of animal carcasses - it is located in the "Debeli del" area, where the existing landfill for household waste is also located. In order to ensure the safe removal of the animal carcasses, it is necessary to create a special grave-pit in the place provided for this, and this is the duty of the local self-government (municipal council).

Special waste streams

Already with the national waste management strategy of the Republic of Serbia from 2003, waste is divided into controlled and uncontrolled waste. Controlled waste includes municipal, commercial and industrial, including medical waste. Uncontrolled waste includes agricultural waste and waste from mining and quarrying. In accordance with the national strategy, the following waste streams are separated:

1. domestic, commercial and non-hazardous industrial waste,
2. packaging and packaging waste,
3. used accumulators and batteries,
4. end-of-life vehicles,
5. scrap tires,
6. used oil,
7. dangerous waste,
8. waste from electronic and electrical equipment,
9. sludge from sewage treatment plants.

1. Non-hazardous production waste

Non-hazardous production waste appears in certain types of industry, such as the so-called "clean waste" and this is particularly characteristic of metal waste.

In this sense, it would be necessary to take actions to identify waste producers generating secondary raw materials; to organize the collection of secondary raw materials in accordance with legal regulations; to promote the processing and use of secondary raw materials; to prescribe an alternative method to reduce the amount of recyclable material that is taken to the landfill (paper, plastic, glass, metal); to determine alternative treatment of biodegradable waste (food, greenery) through active composting in households or at the landfill.

2. Packaging and packaging waste



In accordance with the Directive of European legislation on packaging and packaging waste no. 94/62 EC on the territory of Bela Palanka, a program for working with packaging will have to be developed. In accordance with the program, conditions will be created for the collection and temporary storage of the packages.

After the creation of the market for secondary raw materials, an institution will be created to handle both the collection of packaging and the sale of these secondary raw materials.

To promote the reuse of packaging, an appropriate information system should be organized to ensure the collection of packaging waste.

3. Batteries and accumulators

In accordance with the provisions of the Directive of the European legislation on batteries and accumulators containing dangerous substances no. 91/157/ENC, which should be transposed into the legislation of Serbia, introduced obligations of local self-government as follows:

- 1) To develop an employee training program related to batteries and accumulators,
- 2) Prohibit the use of batteries and accumulators with more than 0.0005° of mercury;
- 3) To enable the separate collection of used batteries and accumulators, with the aim of their processing or disposal
- 4) Keep a record of purchased, used and collected batteries and accumulators;
- 5) After the creation of the secondary raw materials market, to organize a service to deal with the previous activities, as well as the sale of these secondary raw materials;
- 6) To store and provide information about collected (stored) batteries to the competent authorities.

4 End-of-life vehicles

In accordance with the Directive of the European legislation on used vehicles no. 200/53/EC, a number of proposals have been made which should be implemented:



- 1) It is necessary to build a vehicle recycling system, i.e., dismantling the vehicle so that the parts can be recycled (plastic, metal, tires, textiles, etc.);
- 2) The owner of the used vehicle undertakes to ensure the delivery of the vehicle to a company that has a permit to process end-of-life vehicles;
- 3) It is necessary to organize the procedure for collecting and handing over the car to a company that has a license to process end-of-life vehicles;
- 4) A company that treats used vehicles has the following obligations:
 - to apply the best technology available on the market;
 - keeps records for all stages of the activity of collecting and disassembling the vehicle;
 - To organize the treatment of end-of-life vehicles and disposal of parts that cannot be recycled;

5. Scrap tires

In relation to the Directive of European legislation on waste disposal, no. 1999/31EC the municipality will have to, in accordance with the directive, take action to determine the method of alternative treatment of tires, given that the disposal of tires in landfills is prohibited. To ensure that the importation of used and used tires is prohibited except with special permission from the competent authorities.

6. Used oils

According to the national waste management strategy, one of the main directives to be transposed into national legislation is the directive dealing with the problem of waste oil disposal.

The directive emphasizes the processing of used oils through their regeneration, i.e., process of purifying used oils by removing contaminants. In the event that regeneration is impossible, it is recommended to use waste oil as an alternative fuel in compliance with the norms for protecting air purity. In the event that this also proves impossible, then final disposal or controlled storage is reached. When storing used oil, it must not be mixed with other hazardous waste.



The directive places a strict ban on: the discharge of used oils into surface water, groundwater, seas and drainage systems; the discharge of harmful waste oils into the soil and the uncontrolled disposal of residues from the processing of waste oils; the processing of waste oils that cause air pollution.

In order for the municipality to be properly managed in accordance with the Directive, it is necessary to take additional steps, namely to create a Waste Oil Management Plan; to create a system for collecting used oil; to ensure accountability; to ensure adequate and correct storage of used oils.

7. Hazardous waste

In accordance with the legal requirements and the goals set by the national strategy, all producers are obliged to categorize waste. This means that each manufacturer must develop a plan and procedure for dealing with hazardous waste from the moment of generation to its final treatment and disposal. Secondly, it should create an information system for collecting data on hazardous waste. Effective measures should be created to reduce the generation of hazardous waste at the places of their generation. These are only a part of all the necessary actions that should be taken in this direction, but the ones indicated are the most essential.

For the effective planning of the household waste management system, as well as for the assessment of specific treatment facilities. The amount of containers required for disposal, the number of means of transport, etc. it is necessary to know the amount of solid waste generated in the region in a certain period of time. It is also necessary to know which and how much of the waste can be recycled and reused and which and how much will be left for landfill.

The amount of waste generated is calculated based on the number of residents for a certain planning period, as well as on the basis of the expected number of residents who will be covered by garbage collection. The possible increase in the number of inhabitants in a certain period of time and the specific amount of waste per capita should also be foreseen.



Through recycling, the total amount of waste for final treatment changes significantly, which requires recycling to be determined as a leading priority in the field of waste management not only in the region, but also nationally.

In order to achieve the goals, set by the National Waste Management Strategy, it is necessary to build a completely new waste management system in the municipality of Bela Palanka.

The activity of maintaining cleanliness in the settlements on the territory of the Bela Palanka municipality includes, in addition to collection and transportation, and disposal of waste.

The specific activities related to garbage collection and the subsequent treatment of waste are carried out by a utility company. The law provides for the possibility of two or more municipalities organizing themselves to carry out communal activities under the conditions defined by the law and the agreement of the meetings of the respective municipalities.

Waste separation and recycling system

The separation and recycling of certain categories of household waste is one of the essential elements in waste management and part of the waste management system.

Recycling household waste means using useful components from household waste and separating them. The main reasons why recycling is introduced are:

- Recycling is one of the main objectives of the national waste management strategy in the Republic of Serbia;
- Recycling reduces the amount of household waste that must be stored in landfills and valorizes secondary raw materials from household waste;
- Economic gains are achieved through recycling;
- Recycled components are a necessary secondary raw material in the production of several industrial branches - metal mining, paper industry, glass industry;



- Recycling saves energy – the energy used in the recycling process is significantly lower compared to the energy needed in the standard waste transportation and disposal process;
- Recycling creates new jobs, thereby creating favorable conditions for local residents engaged in the field of garbage collection and waste management;
- Environmental protection is ensured by recycling;
- Through its waste management policy, the EU places a recycling obligation on all countries that wish to join, as is the case with Serbia.

The ultimate goal of the practical implementation of the municipal waste management plan is to cover all territories with solid household waste collection and removal. The transfer station will be where waste from local waste collection vehicles will be temporarily stored and then transferred to larger vehicles that will take the waste to a purpose-built sanitation facility.

The principle of operation of the station will consist of several stages:

- 1) The collection vehicle brings the waste to the distribution station and unloads it on a site or in the receiving bin;
- 2) Depending on the amount and type of waste, it is pushed through the receiving basket manually or by machine to a special container, in which the waste is compacted numerous times by baling.
- 3) On the other side of this container, which aims to make the waste more compact, another container is placed into which the already pressed waste is poured;
- 4) When the container is full, the slab is lifted, a tug arrives and transports the container directly to a specially built elevator.

1.2. Legislation on waste management in the Republic of Bulgaria

List of national regulations in the field of waste management:

LAWS:

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme. This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



- Law on waste management (promulgated SG No. 53/13.07.2012);
- Environmental Protection Act (promulgated SG No. 91/25.09.2002);
- Law on ratification of the Basel Convention on the control of transboundary transport of hazardous waste and its treatment;

REGULATIONS:

- Ordinance No. 3 on waste classification (issued by the Minister of Environment and Water and the Minister of Health, promulgated, SG No. 44 of 25.05.2004);
- Ordinance No. 7 of 19.12.2013 on the procedure and method for calculating and determining the amount of collateral and deductions required for waste disposal (promulgated, SG No. 111 of 27.12.2013);
- Ordinance on the separate collection of bio-waste, adopted by PMS No. 275 of 06.12.2013 (Official State Gazette, No. 107 of 13.12.2013);
- Ordinance on the treatment of bio-waste, adopted by PMS No. 235 of 15.10.2013 (Official State Gazette, No. 92 of 22.10.2013);
- Ordinance on the management of construction waste and on the use of recycled construction materials, adopted with PMS 277 of 5.11.2012 (Official Gazette, SG No. 89 of 13.11.2012, in force since 13.11.2012);
- Ordinance on the requirements for the treatment and transportation of industrial and hazardous waste (adopted by PMS No. 53 of 1999, SG No. 29/1999);
- Ordinance on packaging and packaging waste (promulgated, SG No. 85/06.11.2012, amended and supplemented, No. 76/30.08.2013);
- Ordinance No. 3 on the requirements for installations producing titanium dioxide (promulgated SG No. 49/04.06.2013);



- Ordinance No. 4 on the conditions and requirements for the construction and operation of incineration plants and waste co-incineration plants (promulgated SG No. 36 of 2013);
- Ordinance No. 7 on the requirements that must be met by sites for locating waste treatment facilities (issued by the Minister of Environment and Water, the Minister of Regional Development and Public Works, the Minister of Agriculture and Forestry and the Minister of Health, promulgated SG No. 81 of 17.09.2004);
- Ordinance No. 6 on the conditions and requirements for the construction and operation of landfills and other facilities and installations for the recovery and disposal of waste (Issued by the Minister of the Environment and Water, promulgated, SG No. 80 of 13.09.2013, in force from 13.09.2013);
- Ordinance No. 2 of January 22, 2013 on the procedure and templates for providing information on waste activities, as well as the procedure for keeping public registers (promulgated, SG No. 10 of February 5, 2013);
- Ordinance on end-of-life motor vehicles (Adopted by PMS No. 11 of 15.01.2013, promulgated, SG No. 7 of 25.01.2013, in force from 25.01.2013, amended and supplemented, No. 95 of 1.11.2013, in force since 1.11.2013);
- Ordinance on the procedure and method for the utilization of sludge from wastewater treatment through its use in agriculture (Adopted by PMS No. 339 of 14.12.2004, promulgated, SG No. 112 of 23.12.2004);
- Ordinance on batteries and accumulators and on unusable batteries and accumulators (adopted by PMS No. 351 of 27.12.2012, promulgated SG No. 2 of 08.01.2013);
- Ordinance on used oils and waste petroleum products (adopted by PMS No. 352 of 27.12.2012, promulgated SG No. 2 of 08.01.2013);
- Ordinance on obsolete electrical and electronic equipment (adopted by PMS No. 256 of 13.11.2013, promulgated SG No. 100 of 19.11.2013, in force from 01.01.2014);

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



- Ordinance on determining the procedure and amount for payment of a product fee for products, after use of which mass-distributed waste is formed (adopted by PMS No 120 of 30.05.2008, promulgated, SG No. 53 of 10.06.2008 ., amended and supplemented, No. 5 dated 20.01.2009, in force since 20.01.2009, amended, No. 45 dated 16.06.2009, No. 69 dated 3.09.2010, amended, No. 85 of 29.10.2010, in force from 1.01.2011, amended and supplemented, No. 29 of 8.04.2011, No. 47 of 22.06.2012, in force of 22.06.2012, amended, No. 75 of 2.10.2012, in force from 1.10.2012; amended by Decision No. 9028 of 22.06.2012 of the Supreme Court of the Republic of Belarus - No. 87 of 9.11.2012, amended, No. 76 of 30.08.2013, in force from 30.08.2013, No. 100 of 19.11.2013, in force from 1.01.2014);
- Ordinance on the requirements for the treatment of end-of-life tires (Adopted by PMS No. 221 of 14.09.2012, promulgated SG No. 73 of 25.09.2012);
- Ordinance on the procedure and method for calculating the amount of the financial guarantee or equivalent insurance and for providing annual reports-declarations in case of cross-border transport of waste (Adopted by PMS No. 76 of 31.03.2011, promulgated SG No. 29 of 08.04 .2011);
- Ordinance No. 2 of 23.07.2014 on the classification of waste (promulgated SG No. 66 of 08.08.2014). The Ordinance introduces the European classification of waste, mandatory for implementation by municipalities as well.
- Ordinance No. 1 of June 4, 2014 on the procedure and samples for providing information on waste activities, as well as the procedure for keeping public records. The Ordinance defines the requirements for providing information to the NSI and the Environmental Protection Agency regarding waste and waste facilities and installations, including information from municipalities.

DECISIONS:

- RESOLUTION No. 209 of the Council of Ministers of August 20, 2009 on providing financing for the construction of regional systems for the management of household waste, of regional



facilities for the preliminary treatment of household waste and for the closure of municipal landfills for household waste (promulgated, SG, No. 68 of 25.08.2009);

- DECISION No. 115 of June 15, 2012 amending and supplementing the Ordinance on determining the procedure and amount for payment of a product tax for products, after the use of which mass-distributed waste is formed, adopted by Decree No. 120 of the Council of Ministers of 2008 (promulgated, SG No. 53 of 2008; amended and supplemented, Nos. 5 and 45 of 2009, Nos. 69 and 85 of 2010 and No. 29 of 2011);
- DECISION No. 239 of October 1, 2012 amending the Ordinance on determining the procedure and amount for payment of a product tax for products, after the use of which massively distributed waste is formed, adopted by Decree No. 120 of the Council of Ministers of 2008. (Promulgated, SG No. 53 of 2008, amended and supplemented, Nos. 5 and 45 of 2009, Nos. 69 and 85 of 2010 and No. 29 of 2011 and No. 47 of 2012);

OTHER:

- Mechanism for the development of waste management infrastructure with the support of the Operational Program "Environment 2007-2013", November 2009;
- National program for managing waste activities 2021-2028;
- National strategic plan for a step-by-step reduction of the amount of biodegradable waste destined for landfill (2010-2020);
- National strategic plan for the management of construction and demolition waste in the territory of the Republic of Bulgaria for the period 2011-2020;

The policy and legislation for waste management in Bulgaria aims to implement the relevant EU directives, regulations and decisions in the field. The total amount of municipal waste generated decreased from nearly 5 million tons in 2000 to just over 3 million tons in 2014. The amount of waste generated per capita decreased from over 600 to 442 kg/person/year respectively. The number of settlements and residents served by collection services is growing significantly. Today, 99.6% of the population is covered by household waste services. The official

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

system for the separate collection of packaging waste was introduced in Bulgaria in 2004. At that time, only slightly more than a third of the generated packaging waste was recycled, and by 2014 this share had reached 61.7%.

National Waste Management Plan (NWMP)

The first NPP0 from 1999 was adopted for the period 1999-2002, providing for a number of conditions for solving issues related to waste management. Programs have been developed for specific waste streams in the period 2002-2003, as well as for end-of-life vehicles, as well as for end-of-life electrical appliances, used batteries and accumulators, and packaging waste.

The next NAP was adopted for the period 2003-2007, being updated and expanded in 2008, and in 2009 a third NAP was adopted for the period 2009-2013, which set ten strategic objectives, including in relation to prevention and reducing waste for future generations, increasing the amount of recycled waste, and promoting the separate disposal of household waste. The overwhelming number of measures have been implemented, including the measures to improve the capacity of the administration. The fourth NAP for the period 2014-2020 emphasizes economic growth by reducing waste for future generations

The waste management policy is carried out by the Ministry of Environment and Water, assisted by the Directorate "Waste Management and Soil Protection", in accordance with the legislation of the European Community and the national legislation - Law on Protection of the Environment, Law on Management of waste, regulations, national planning and strategic documents - National Waste Management Plan 2014-2020, National Strategic Plan for the Management of Sludge from Urban Wastewater Treatment Plants 2014-2020, National Strategic Plan for the Management of Waste from construction and demolition 2011-2020 and the National Strategic Plan for the step-by-step reduction of the amount of biodegradable waste destined for landfill.

The national strategic plan for the step-by-step reduction of biodegradable waste destined for landfill 2010-2020 is the first plan for the country in which an in-depth analysis of the environmental problems resulting from the landfill of biodegradable waste is systematically

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.

carried out, defines the problems and identifies necessary measures (administrative, regulatory, financial, etc.) to overcome the problems and to fulfill the goals of gradually reducing the disposal of this waste and increasing its recycling and utilization. The plan was adopted in implementation of Council Directive 1999/31/EC of April 26, 1999 on waste disposal.

The measures of the plan are also set as key to achieving the goals of the Third National Action Plan on Climate Change 2013-2020 to reduce greenhouse gas emissions from the "waste" sector. A number of installations for the utilization of green biodegradable waste have been put into operation, including the country's largest composting installation in Sofia. They are currently in closing stage of completion and more than 20 municipals composting installations are about to be put into operation. The first anaerobic installation for food waste is also functioning in Sofia, and three others are under construction - in Burgas, Ruse and Blagoevgrad. However, information campaigns for the population and other interested parties are still very limited in scope, home composting is also not widespread o. The National Strategic Plan for the Management of Construction and Demolition Waste in the Republic of Bulgaria for the period 2011-2020 is also the country's first plan in the area under consideration. As a result of detailed analyzes of the existing situation, the plan defines for the first-time measures (administrative, regulatory, financial, etc.) to increase recycling and utilization of this flow of waste, which is mainly landfilled in the country. In implementation of the measures of the plan, regulations have been adopted in the Environmental Protection Agency and an Ordinance on the management of construction waste and on the use of recycled construction materials has been developed and adopted.

The National Waste Management Plan 2014-2020 is the fourth program document at the national level for the integrated management of waste activities in Bulgaria. The plan was adopted in implementation of the Waste Framework Directive of 2008. A key objective of the plan is to break the link between economic growth and waste by improving the hierarchy of waste management by developing for the first time a sub-Programme and measures to prevent waste

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



generation, set specific quantitative targets for preparation for reuse, recycling and other recovery of specific waste streams. Part of the Plan is the Waste Prevention Program.

In Bulgaria, goals and systems for the separate collection of widespread waste have been established in accordance with the EU Waste Framework Directive, i.e., packaging waste.

Municipal waste management programs

Almost without exception, municipalities in Bulgaria after 2014 developed municipal programs for waste management, following the approach and concept of the National Waste Management Plan. Municipalities received very good methodological assistance from the Ministry of Environment and Water, which developed and published "Methodical guidelines for the development of municipal and methodological guidelines for the development of regional waste management programs for the period 2015-2020", approved by Order No. RD-211/31.03.2015 of the Minister of Environment and Water.

The National Association of Municipalities in the Republic of Bulgaria also assisted the municipalities by preparing and implementing projects for training municipalities in the "waste management" sector, incl. on the development of municipal programs for waste management.

Other national documents addressing waste management issues

The National Development Program of Bulgaria 2030 is a framework strategic document of the highest order in the hierarchy of national program documents, determining the vision and general objectives of development policies in all sectors of state government, including their territorial dimensions. The document defines three strategic goals, for the implementation of which it groups the government's intentions into five development axes and raises 13 national priorities. For the purposes of developing the National Development Program of Bulgaria 2030, an Analysis of the socio-economic development of Bulgaria after its accession to the EU9 (2007-2017) was developed to determine the national priorities for the period 2021-2027. The analysis was approved by Decision No. 196 of the Council of Ministers of April 11, 2019. Waste management issues are analyzed, separated into a separate subsection "Waste Management". According to the analysis, good waste management is a building block

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



of the circular economy and contributes to preventing the negative impact of waste on the environment and health. It is noted that significant positive results have been achieved in recent years.

Regarding the "Polluter Pays" principle and its incorporation into the waste management policy, the EC's assessment is presented that Bulgaria has adopted a good legal basis for a fair calculation of the fee for household waste based on the amount of waste generated.

The realization of the strategic goals is envisaged through targeted policies and interventions, grouped in five interrelated and integrated axes of development, one of which is "Green and sustainable Bulgaria". The main focus of this axis of development is the sustainable management of natural resources, enabling the current needs of the economy and society to be met, while preserving ecological sustainability, so that these needs can continue to be met in the long term. For this axis, the government defines three national priorities, one of which is "Circular and low-carbon economy". Within this priority, it is envisaged that the low resource efficiency will be addressed through actions to reduce the amount of waste generated in the production process, including during the implementation of projects within the framework of public procurement and concessions. It is planned to increase the share of composted organic waste and recycled household, production and construction waste at the expense of their incineration and landfilling; to take measures to improve the access of citizens and businesses to the systems for separate collection and recycling of waste; the provision of financial incentives to support the separate collection of waste, as well as the use of recycled raw materials; introduction of additional mandatory separate collection of bio-waste and textile waste ³⁹.

- **Municipality of Dupnitsa**

The municipality of Dupnitsa is located in Southwestern Bulgaria and is one of the constituent municipalities of Kyustendil District (see Map 2 in the Appendices). There are 17 settlements within its territorial scope. (1 city – Dupnitsa and 16 villages).

39 <https://www.moew.government.bg/bg/otpaduci/strategicheski-dokumenti/>

The municipality is a member of the Regional Association for Waste Management "RILA ECO". The Regional Waste Management Association (RWA) for the Dupnitsa region was established on 14.06.2011, the leading municipality in the association is Kyustendil Municipality, and the member municipalities are: Dupnica, Kyustendil, Bobov Dol, Sapareva Banya, Nevestino and Treklyano.

Program for waste management on the territory of the municipality of Dupnitsa

When developing the program, European and national legislation in the field of waste management was taken into account, the fact that the Municipality of Dupnitsa is a member of the Regional Association for Waste Management "RILA ECO" and which will manage a Regional Center for the treatment of non-hazardous waste - Dupnitsa region when it is built. Based on this, the goals and measures for reaching the goals of the program for the period 2021-2028 have been determined (See Map 3 in the Appendices).

The program is an integral part of the Municipal Environmental Program, according to Art. 52, para. 2 of the Waste Management Act and was developed for a period that coincides with the period of operation of the National Waste Management Plan 2021-2028.

The program is a tool for implementing the legislation on waste management and achieving the set goals at the local level in order to achieve the set goals at the national level and at the level of the European Union.

The waste management program of the Municipality of Dupnitsa covers all activities that arise as an obligation of the local self-government bodies and the local administration, and the necessary measures to fulfill the duties of the mayor of the municipality.

The following types of waste are included in the scope of the program:

- 1) household waste;
- 2) production waste;
- 3) construction waste;
- 4) hazardous waste.

A key element in the development of the program is the consideration and implementation of the following priority order (hierarchy) in waste management:

- prevention of their formation;
- preparation for reuse of waste;
- recycling;
- Other recovery, for example recovery to obtain energy or fuels;
- disposal.

The developed program is based on the following basic principles:

- "Prevention" - waste generation should be reduced and avoided where possible.
- "Extended producer responsibility" and the "polluter pays" principle - persons who generate or contribute to the generation of waste or pollute the environment must cover the full costs of waste treatment and manage it in a way that guarantees a high degree of protection of the environment and human health.
- "Preventiveness" - potential waste problems must be anticipated and avoided at the earliest possible stage.
- "Proximity" and "self-sufficiency" - waste must be disposed of as close as possible to the place of its generation, and waste generated in the EU must be treated within the Union.
- "Public participation" - relevant stakeholders and authorities, as well as the general public, have the opportunity to participate in the development of waste management plans and waste prevention programs and have access to them after their development.

Waste generated

The continuously growing amount of waste generated by people's life activities, production and trade requires taking measures to reduce their total amount, reuse them and increase their recycling and recovery. Simultaneously with the development of waste treatment technologies, the opportunities for using waste as an alternative raw material and energy source and reducing the amount destined for landfill are increasingly expanding.

Various types of waste are generated on the territory of the Municipality of Dupnitsa. The percentage participation of production waste is insignificant.

On the territory of the municipality, waste is industrial, domestic and construction. In recent years, the amount of industrial waste has been maintained, but at the expense of this, the amount of household and construction waste has increased due to the rapid pace of construction development in the municipality.

The services according to Art. 19, para. 3, item 2 of the ZUO regarding: collection of household waste and its transportation to installations and facilities for their recovery and/or disposal, in the territory of the Municipality of Dupnitsa, is carried out by the company "Eco Resurs - R" Ltd., Sofia.

From 01.01.2018, the collected mixed household waste from the territory of the Municipality of Dupnitsa is transported to a site in the city of Sofia, Filipovtsi district, 13 "Bansko Shose" Street, according to a contract concluded between the Municipality and "Ekobulsort" EAD, Sofia, for activities on the treatment of mixed household waste generated on the territory of the Municipality of Dupnitsa

The cleaning of the streets, squares, alleys, parks and other areas of the settlements intended for public use is carried out by workers of the Municipal Enterprise "ChPTOP". The cleaning of these territories consists of manual and machine sweeping, and collection of waste from streets, sidewalks, parks and gardens, mostly in the central parts of the settlements.

The municipality of Dupnitsa does not offer containers for the removal of construction waste. The company with which the municipality has a contract for garbage collection, "Eko Resurs - R" Ltd., offers containers with a capacity of 4 m³ for the collection and removal of construction waste upon prior request and payment of a certain fee.

The packaging waste collected in the containers for the separate collection of waste from plastic, paper, metal and glass is processed according to a contract concluded with "Ecopak Bulgaria" AD for cooperation in the field of the separate collection of waste from packaging and from paper and cardboard, metals and plastics. The system covers the town of Dupnitsa and six villages - the village of Yahinovo, the village of Kraynitsi, the village of Cherven Breg, the village of Samoranovo, the village of Bistrica, and the village of German.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



For the organization of separate collection of mass-distributed waste, there is a system for separate collection, transportation, storage and delivery for preliminary treatment with the aim of subsequent recovery and/or disposal of end-of-use electrical and electronic equipment (WEEE) generated on the territory of the Municipality Dupnitsa, on the basis of a contract with "ELTEHRESURS" AD, Sofia. The collection of WEEE from the population is carried out from the places of formation - residential and administrative buildings, and is carried out by a mobile group with the submission of a preliminary request to a telephone number announced on the official website of the Municipality.

The Municipality of Dupnitsa has signed a contract for cooperation with "GUMIREK" EAD, Sofia - an organization for the recovery of end-of-life tires (UE). The organization concludes contracts with individuals or legal entities generating IUG located on the territory of the Municipality and provides transportation of collected tires from certain locations.

On the territory of the Municipality of Dupnitsa, there is a developed system for the separate collection, storage and dismantling of end-of-life motor vehicles (EMVs) and for the reuse, recycling and/or recovery of motor vehicle waste generated on the territory of the Municipality of Dupnitsa. The municipality has a contract with "BULGARIAN RECYCLING COMPANY" AD, Sofia.

On the territory of the municipality of Dupnitsa, there are no sites for the separate collection of hazardous household waste and their delivery for recovery and/or disposal in order to protect the life and health of people and protect the environment from waste.

With regard to the separate collection and storage of household biodegradable waste, the places for placing the necessary elements of the system for the separate collection of waste and their transmission for composting or anaerobic digestion have been determined. At the moment, there is no constructed site for separately collected biodegradable waste on the territory of the Municipality of Dupnitsa.

On the territory of the Municipality of Dupnitsa there are points for collecting waste from plastics, glass, paper and cardboard, and the register of the sites is publicly announced on the official website of the Municipality.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



Unregulated dumping, burning or other forms of uncontrolled disposal of waste is prohibited on the territory of the Municipality of Dupnitsa. Periodic inspections are carried out and in the presence of unregulated dumps, they are cleaned promptly.

On the territory of the municipality there are many small landfills, formed as a result of the unscrupulous behavior of the citizens and some of the industrial enterprises and companies. The fact that most of the unregulated landfills are located along the rivers passing through the populated areas is alarming, which endangers the environment and water.

The municipal waste dump in the town of "Zlevo", located 5 km from the town of Dupnitsa, in the direction of the village of Bistrica, has been suspended from operation by Order No. RD-121/20.11.2017. The landfill does not meet the European requirements, the Waste Management Act and Ordinance No. 7 on the requirements that must be met by sites for the placement of waste treatment facilities.

Specific waste streams

1. Packaging waste

In fulfillment of the Contracts, in 2020 the municipality fulfilled the obligations under the Ordinance on packaging and packaging waste, by concluding a Contract with a recovery organization and introducing a three-container color system for the separate collection of waste /blue, green and yellow/.

The promotion of separate collection of waste is most often carried out through information campaigns aimed at different groups - children from kindergartens, schoolchildren, students, companies, retail chains and others.

The main goals are: 1) improving the understanding of the activity of separate collection and recycling of waste in Bulgaria with a focus on the three stages "collection-separation-recycling"; 2) informing consumers about the benefits of separate collection; 3) promotion of active and responsible behavior towards environmental protection and conservation of natural resources; 4) reducing the amount of landfill waste from packaging.

Construction waste

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



"Construction waste" is the waste obtained as a result of construction activities on construction sites, as well as waste from the demolition or reconstruction of buildings and facilities. The main amount of construction waste is generated by the activities of companies performing construction and repair activities.

At this stage, the Municipality has not built a system for the collection and removal of construction waste from households, and its transportation remains the responsibility of the households themselves and private companies that carry out construction activities, such as unreusable earth masses and construction waste from the demolition of buildings and internal repairs are directed to a site on the territory of the municipality of Boboshevo.

A large amount of construction waste is illegally deposited along the roads, mainly on the entrance-exit arteries of the city. It is necessary to take measures to achieve the goals of reducing the amount of deposited construction waste through preliminary treatment and subsequent utilization, including and recycling and preparation for reuse.

Production and Hazardous waste

A) Hazardous waste

Hazardous waste is that waste that has one or more hazardous properties specified in Annex No. 3 to the Environmental Protection Act. This type of waste is generated mostly in industrial enterprises, but also in some medical and hospital facilities and in the domestic sector. These include used oils and petroleum products, unusable batteries and accumulators, medical waste, paints and varnishes, detergents, pesticides, etc.

Hazardous waste from companies is collected and stored separately in closed warehouses and handed over for treatment to individuals or legal entities holding the relevant permit under the ZUO or Complex Permit, based on a written contract.

The separate collection of hazardous household waste does not yet take place systematically, but within individual campaigns. Therefore, a large part of them is still thrown in the containers together with the general household waste.

No hazardous waste landfill has been built on the territory of the Dupnitsa municipality, which is why it must be collected at the source for its generation.

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



On the territory of the municipality, available pesticides and other preparations for plant protection with an expired expiration date are stored in BB - cubes in a warehouse in the village of Piperevo.

Hazardous biomedical and medical waste from medical facilities are collected separately and then, through concluded contracts with transport companies, they are handed over for subsequent treatment.

Production waste

"Industrial waste" is the waste generated as a result of the industrial activity of individuals and legal entities. Here too, a large part of this waste is thrown into the containers together with the non-hazardous household waste and transported with them for subsequent treatment.

In order to stimulate the separate collection of waste from packaging of legal entities, in the Ordinance on determining local fees and prices of services in the territory of the Municipality of Dupnitsa, a reduction of 5% is provided, in cases where the owner / user / of the property implements separate collection of the waste.

Biodegradable waste

Much of the waste generated in homes and offices consists of "organic" or natural materials. These materials degrade naturally over time. Biodegradable waste is generated during agricultural activity in crop production, in animal husbandry and from household activities.

Among the practices operating on the territory of the municipality is the treatment of biodegradable waste in one of the following ways:

- use of kitchen and garden residues for food for domestic animals;
- burying food and plant waste in the soil for the purpose of fertilizing;
- Accumulation of mixed piles with manure, vegetable and food waste in the field, which after a certain period of time can be used as fertilizer;
- burning garden waste and leaves.

Until now, no facilities and installations for biological treatment of plant waste have been built on the territory of the municipality. There is a practice of in-situ biodegradation in the soil where crop residues fall as a result of agricultural land cultivation.

Collection, removal and disposal of waste

The collection and transportation of household waste from populated areas with organized garbage collection and garbage removal in the Municipality of Dupnitsa, as well as the collection and transportation of bulk waste (EGO), construction and plant waste, cleaning of street bins, machine sweeping and washing of areas for public use on the territory of the Municipality is carried out according to a concluded Contract with the contractor "EKO RESOURCE - R" LTD.

Morphological composition of the waste:

The waste is food, paper, plastic, garden and construction waste, from home renovation occupy over 70% of all waste.

The share of waste that can be recycled and reused (paper, cardboard, glass, metals, plastics) is about 40%,

Food and garden waste can in turn be composted, and the composting product can be used afterwards.

At this stage, the lack of targeted measures to stimulate the reduction of waste can be cited as shortcomings. There is no unified system for the separate collection and utilization of bio-waste.

The program of the Municipality of Dupnitsa sets four strategic goals:

- **Strategic objective 1: Reducing the harmful impact of waste by preventing its formation and promoting its reuse.**

The aim is to encourage the population, companies and institutions on the part of the municipality to various measures and methods that lead to the prevention of the formation of waste, i.e., taking specific actions that could reduce the generation of waste, where possible.



The EU's waste management policy aims to reduce its impact on the environment and human health, as well as to promote the efficient use of resources. In the long term, the goal is for Europe to become a recycling society that prevents the generation of waste.

The aim is to achieve a higher level of recycling and minimize the use of additional natural resources.

- **Strategic objective 2: Increase the amount of recycled and recovered waste and reduce and prevent the risk of its landfilling.**

Fulfilling the commitments to achieve the goals laid down in the European legislation, Bulgaria is taking steps to transform its economy from a linear to a circular one. In the waste management hierarchy, preparation for reuse ranks second after preventing the formation of waste. The purpose of this arrangement is precisely the maximum use of waste in as many directions as possible. Next in order is recycling, which aims to turn waste into other raw materials and materials, but the difference with preparation for reuse is that here, for the performance of the activity, the use of much more raw materials is necessary. Next comes recovery, which aims to use waste for conversion into energy, biofuels, etc.

According to the ZUO, mass-distributed waste is waste that is formed after the use of products from numerous sources throughout the country and, due to its characteristics, requires special management. National legislation sets annual quantitative targets for recycling and recovery of six groups of widely distributed waste:

1. Packaging waste;
2. End-of-life motor vehicles IUMPS;
3. End-of-life electrical and electronic equipment WEEE;
4. Waste oils and petroleum products;
5. Unusable batteries and accumulators;
6. Waste tires.

The targets for the six groups of widespread waste are implemented and financed at the National level, mainly by recovery organizations and/or self-employed persons through the implementation of the "extended producer responsibility" schemes. Their achievement is

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



impossible without the cooperation of the local authorities, which, with the help of organizations and/or companies holding permits for activities with waste, organize the separate collection of mass-distributed waste generated by household activities.

The mayor of the municipality is responsible for the collection of waste from the population, therefore also for organizing and supporting the activities of the separate collection of mass-distributed waste and its delivery for recovery.

Electrical and Electronic Equipment (EEE)

On the territory of the municipality, all persons who sell EEE to end users are obliged to:

- place signs in a prominent place in the commercial establishments, containing information on the possibilities and the method of taking back in the commercial establishment WEEE generated in the household and/or other available places for the transfer of WEEE;

- accept WEEE free of charge in commercial establishments that sell EEE, when purchasing a new EEE of a similar type and performing the same functions;

One of the options for fulfilling the requirements of the Ordinance is assistance to recovery organizations by determining locations and organizing a system for separate collection of this waste. The places can be dedicated sites for the transfer of waste and/or places for placing specialized containers for this type of waste.

Batteries and accumulators

The requirements in the Ordinance on batteries and accumulators and on unusable batteries and accumulators (NUBA) are identical to those in the Ordinance on WEEE.

Places for collection of unusable batteries and accumulators are also all objects in the commercial network on the territory of the municipality, where batteries and accumulators are offered. The persons who manage such objects are obliged to provide places for placing specialized containers for the collection of unusable batteries and accumulators and to ensure access to them.

Oils and petroleum products

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



In the Ordinance on used oils and waste petroleum products (Official Gazette No. 2 of January 8, 2013, amended and supplemented, SG No. 60 of July 20, 2018), the obligations of local self-government bodies are:

- Determining the places for changing used motor oils on the territory of the municipality in cases where the places for changing used motor oils are located on municipal property

and

- Assistance in performing the activities of collection and storage of used oils and their transfer for recovery, when the municipality has a contract for the performance of the activities of collection of used oils and their transfer to installations for recovery and/or disposal.

The options are for the municipality to offer its own site for the collection of this waste or to conclude a contract with a person who owns an already built site and who has valid permits for activities with waste according to the order of the ZUO.

Unusable tires

Ordinance on the requirements for the treatment of end-of-life tires \IUG\ (Official State Gazette No. 73 of 25.09.2012, last amended and supplemented by State Gazette No. 60 of 20.08.2018), reimposes the same requirements as for the above specific waste, namely, determination of places for the collection of IUG on the territory of the municipality, when the places for the collection of IUG are located on municipal property and assistance in carrying out the activities of collection and storage until they are handed over for utilization, and when a contract has been concluded for the collection and storage of IUG and their transfer for utilization or disposal.

Here, too, the options are to conclude a contract with an organization for the utilization of IUG, for which it is necessary for the municipality to have a site where it can store the specified waste and/or to conclude a contract with an authorized person who operates an active site.

End-of-life motor vehicles

Pursuant to the Ordinance on end-of-life motor vehicles /IUMPS/ (Official Gazette No. 7 of 25.01.2013, last amended and supplemented by Gazette No. 37 of 21.04.2020), the main obligations of the local administration are:

- determines the places for deploying the necessary elements of the separate collection systems and the places for the handover of the IUMPS on the territory of the municipality.

- organizes the activities for the collection of motor vehicles and their delivery to disassembly centers, which is notified to the "Road Police" unit at the regional directorate of the Ministry of Internal Affairs by place of registration of motor vehicles.

Bulky waste, hazardous waste

The management of bulky waste is an important part of the overall process of planning the activity related to waste management in the municipality. For the most part, bulky waste contains a large percentage of recyclable materials such as metal, wood, iron, etc.

Shoe and textile waste

According to the amendment of the Framework Directive 2008/98/EU on waste adopted on May 30, 2018. legislative package "Waste" in relation to the circular economy, member states undertake to take measures to prevent the generation of textile waste as part of the household waste stream, by promoting reuse, and to introduce mandatory separate collection

Currently, the main method for treating textile waste is landfilling. The municipalities do not have the infrastructure for their utilization in case of separate collection, and their transportation to the few installations in the country is economically unprofitable.

- **Strategic objective 3: Waste management that ensures a clean and safe environment.**

Waste management activities represent a complex of decisions, actions and activities related to the generation of waste; its ecological treatment based on certain information. The information provision of waste management activities is of great importance when making decisions on the application of various forms of control. It is necessary for the municipality to

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC1615CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



have sufficient and reliable data on the different types and flows of waste that it handles or that are generated on its territory, but are managed by other persons.

The Deputy Mayor for Social Activities and the Director of the Environment and Transport Directorate are responsible for the waste management policy and control in the Municipality of Dupnitsa. The head of the "Ecology, Cleanliness and Environmental Protection" department in the Municipality of Dupnitsa exercises continuous control over the activities of waste management, garbage collection and disposal of generated waste, the system for separate waste collection.

- **Strategic objective 4: Making the public a key factor in implementing the waste management hierarchy**

Public information and participation are an essential component of any waste management program. Waste is the result of human activity and without the participation of the population, the main generator of household waste, even the best designed program cannot achieve its goals.

Public awareness campaigns and consultations with stakeholders in the waste management process contribute to understanding the potential opportunities and environmental benefits arising from the recovery and recycling of waste.

Waste management activities in the municipality must become completely transparent, while at the same time giving the population more opportunities to participate in the processes.

Conclusion



This Legal Assessment analyzed waste management in the cross-border region BG-SR, researched local and European best environmental practices in the field of pollution prevention, and assessed national, regional and municipal waste management plans and tried to make proposals for improving municipal plans in the context of harmonization, unification and better coordination based on lessons learned and the latest European and international regulations and trends in the field. The report also aims to include green solutions in the waste management process.

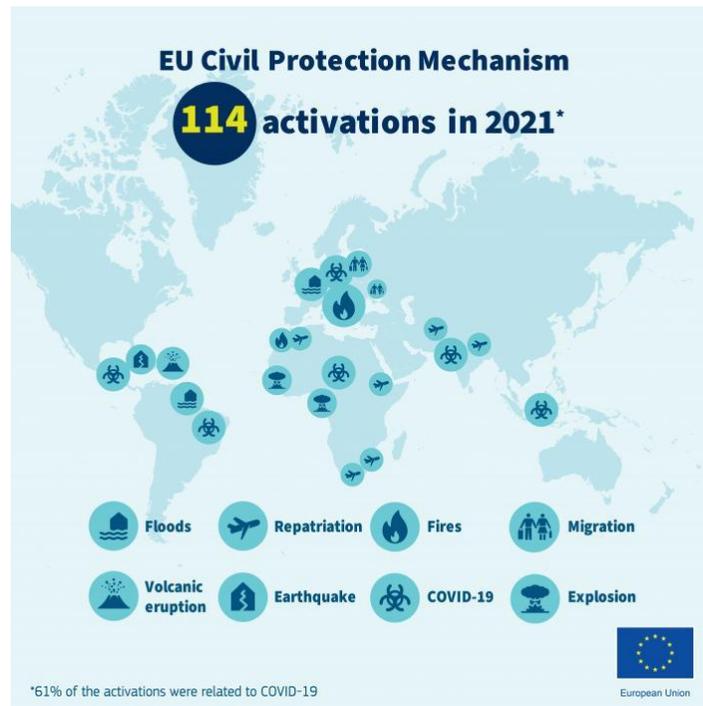
This Legal Assessment looked in detail at the legal framework and legal issues in the field of waste management, specifically the EU Civil Protection Mechanism, EU environmental legislation and policies, and at the same time local legislation related to it. This is one part of the legal assessment and research as a whole.

The other essential part of the legal assessment and of the research that was developed in the framework of this activity is the best European and international practices in the field of pollution prevention. Cities vary widely and sharing concrete examples of what a European green capital could look like is essential if we are to make further progress. This is how many green practices, policies, legal regulations can be borrowed not only at EU level but also on a global scale with a view to efficient waste management, protection of natural habitats, keeping air and water clean, improving knowledge about toxic chemicals as well as helping businesses move towards a sustainable economy.

Applications



Scheme 1. How does the EU Civil Protection Mechanism work. Source: EC



Scheme 2. Activations of the EU Civil Protection Mechanism. Source: EU

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme. This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.



CD's and DVD's
(without box)



Led and
Fluorescent Lamps



Batteries



Cork stoppers



Packaging and cans with
product residues
(varnish, paint, solvents,
cleaning products)



Non-packaging paper
(newspapers, magazines,
books and sheets)



Small Electrical and
Electronic Equipment



Cartridges and Toners

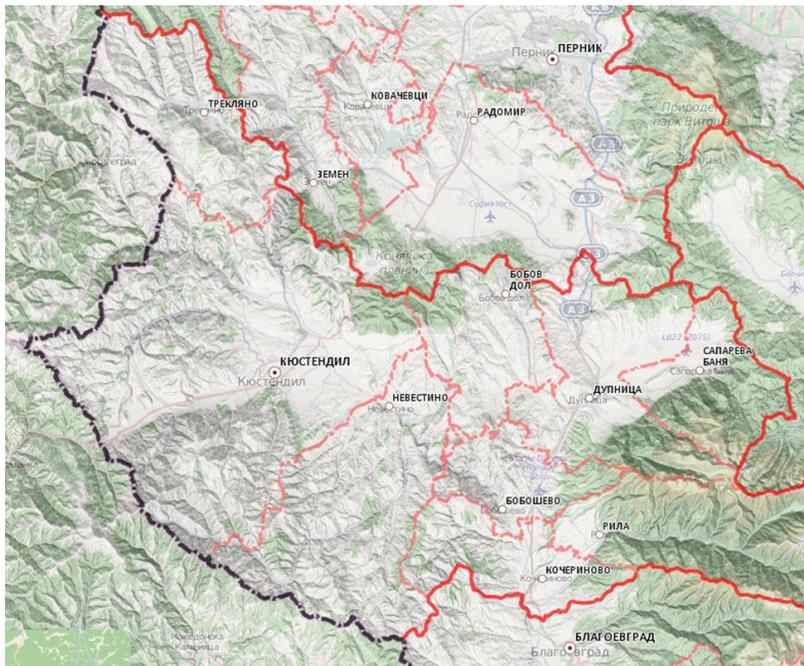
Scheme 3. Outline of the types of waste that can be recycled through the Mobile Drop-off sites service in Ireland



Map 1. Map of the southeastern part of the Republic of Serbia



Map 2. Geographical map of Dupnitsa Municipality



Map 3. Participating municipalities in the "RILA ECO" EMS - Dupnitsa region

The project is co-funded by EU through the Interreg-IPA CBC Bulgaria-Serbia Programme.

This publication has been produced with the assistance of the European Union through the Interreg-IPA CBC Bulgaria-Serbia Programme, CCI No 2014TC16I5CB007. The contents of this publication are the sole responsibility of Dupnitsa Municipality and can in no way be taken to reflect the views of the European Union or the Managing Authority of the Programme.