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Circular Economy Country Specific Report

Written Contribution for the 2019 Annual Report

Montenegro



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Disclaimer:

1. Introduction

1.1. Circular Economy in the European policy context

The concept of the circular economy emerged in the last decade of the last century as a response to the need to find a balance between economic growth, necessary to meet the needs of the expanding population, and the increasing need to stick to a sustainable development path. It originates from the industrial ecology paradigm and at its core is the idea of circular (closed) flows of materials through multiple phases. It builds on decades of gradual understanding of the increasing anthropogenic effect of human activity and its planetary limits. Efficient resource management is one of the important building blocks of the circular economy. Thus, understanding the principles of this concept and the possible ways of mainstreaming it are crucial for adopting a sustainable path of socio-economic development (which, in the case of Montenegro, means keeping the pledge for an “ecological state”).¹

Germany is the first country, which formally adopt the concept of a circular economy and incorporate its postulates into legislation is Germany. In 1996, Germany adopted *Law on Closed Waste Management Cycle*.²

In 2000 Japan also adopt *Law on Recycling Based Society*.³ The greatest progress in the transition to the circular economy has been achieved by the Republic of China and the European Union. In 2009, the Republic of China adopted the *Law on the Promotion of the Circular Economy*, which created the legal and political basis and initiated activities aimed at promoting the concept of the circular economy.⁴

In 2015. European Commission adopted *Circular economy package – Circular Economy Action Plan*, which implies amendments of following six directives:

- Directive 2008/98/EC on waste;
- Directive 94/62/EC on packaging and packaging waste;
- Directive 1999/31/EC on the landfill of waste;
- Directive 2000/53/EC on end-of-life vehicles;
- Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators⁵;
- Directive 2012/19/EU on waste electrical and electronic equipment

These Directives are part of a *Circular Economy Package* which also include a Commission Communication "**Closing the loop – An EU action plan for the Circular Economy**".

In 2018. EC presents a "*circular economy package*" which transforms the way of design, production, use and recycling of plastics and plastic products.

¹ UNDP_Resource efficiency and sustainable development 2014

² <http://germanlawarchive.iuscomp.org/?p=303#l>

³ <http://www.env.go.jp/recycle/low-e.html>

⁴ http://www.fdi.gov.cn/1800000121_39_597_0_7.html

The amendments of the above-mentioned directives included the following aspects:

- *Increasing the recycling targets* for municipal, packaging and construction waste by 2030;
- Introducing a *waste prevention measure* including food waste;
- Minimizing *landfill waste*;
- Minimum conditions for *expanded liability of waste producers*.

Circular economy package identified **plastics** as a key priority and committed itself to ‘prepare a strategy addressing the challenges posed by plastics throughout the value chain and taking into account their entire life-cycle’. In 2017, the Commission confirmed it would focus on plastics production and use and work towards the goal of ensuring that all plastic packaging is recyclable by 2030.⁵ European Commission adopted *European Strategy for Plastics in a Circular Economy* in 2018.

On 4 March 2019, the European Commission adopted a comprehensive report on the implementation of the Circular Economy Action Plan.⁶ According to the report 54 actions under the action plan have now been completed or are being implemented, even if work on some will continue beyond 2019. The conclusion of the report is following: “*Implementing the Circular Economy Action Plan has accelerated the transition towards a circular economy in Europe*”.

1.2. Circular Economy in Montenegro

The concept of the circular economy is pretty new in Montenegro. The first analysis regarding the circular economy in Montenegro was done in 2014 by the **UNDP (United Nation Development Programme)** in the document: *Resource efficiency and sustainable human development*.⁷ According to the above-mentioned document, an analysis of national policies concludes that the concept of a circular economy is far from being implemented in Montenegro, and that the efficient use of resources has not been directly integrated into Montenegrin policies and regulations. However, in this document is written that there are some positive developments: Issues such as stimulation of innovations and productivity, mitigation of the impacts of economic growth, sustainable management of natural resources and governance improvements are integrated into **National Sustainable Development Strategy (NSDS) 2007 – 2012**.⁸

The National Strategy for Sustainable Development by 2030, which fully transposed the UN Agenda 2030, recognized the importance of the transition to the circular economy. One of the main goals of this Strategic document is: “**Improve waste management applying the circular economy-based approaches**” as priority one. In order to achieve this goal it is necessary to apply following measures:

⁵ Commission Work Programme 2018 - COM(2017) 650.

⁶ <https://ec.europa.eu/environment/circular-economy/>

⁷ UNDP_Resource efficiency and sustainable development 2014

⁸ National Sustainable Development Strategy 2007 – 2012

- Encourage activities aimed at the reduction of waste generated in the territory of Montenegro,
- Apply primary selection of waste as efficient as possible, as a prerequisite for the achievement of clearly defined goals in the area of re-use and recycling of discarded materials (which implies considerable investments into the separate collection systems in the coming period, followed by appropriate awareness raising programs);
- Establish efficient waste selection and recycling (collection, separation, treatment, re-use of recyclables, as well as system for prevention of waste – include incentives for the development of recycling activities, stimulate secondary raw materials market and demand for recyclables);
- Develop a system for management of special waste streams (e.g. used batteries and accumulators, used tires, end-of-life vehicles, waste electric and electronic equipment, packaging waste, construction and demolition waste), biodegradable waste, sewerage sludge, veterinary waste, animal by-products, medical waste, industrial waste;
- Circular economy approaches should be gradually introduced into the waste management system (shift from “landfill system” to circular waste management system), applying measures for the encouragement of resource-efficient use of raw materials in production, enabling reduction of waste generation, especially of hazardous waste generation and use of waste as alternative fuel, applying the approaches based on recognition of economic and environmental importance of waste, establishing macro analysis and sector material flow analyses – MFA, and introducing related circular economy indicators) ;
- Improve the application of penalties in waste management, and raise awareness about the importance and advantages of sustainable waste management (ecological knowledge, ecological behaviour, ecological situation valuation)⁹.

The beginning of industrialization and transition towards market-based economy brought an unsustainable model of economic growth to Montenegro, which is similar to many other developing countries “**take, produce, consume and discard**”; it is a linear model resulting from the assumption that quantities of materials extracted from nature are inexhaustible.

According to the 2013 Report on the implementation of the Ministry of Sustainable Development and Tourism, estimated quantities of generated waste amounted to 243,941 tons, and in the period between 1990 and 2011, emissions of gases from waste had been reduced by only 20%. Taking into account that linear economic growth model turned out to be unsustainable and that competition for use of scarce raw materials has become ever stronger, **transition to circular zero waste economy** has become one of the prerequisites for sustainable development and increased resource efficiency.

Beside the National Strategy for Sustainable Development by 2030, the concept of circular economy is recognized in the proposal of the Law on Waste Management (Official Gazette of Montenegro, 64/2011) In the new proposal of the draft of **Law on waste management** are partially transposed the amended directives which are in circular economy package, spatially in terms of percentage of recycling rate. Preparation of the new Law on Waste Management was planned for the end of 2018 but still the Law has not been prepared and adopted. The new Law on Waste Management will transpose amendments directives, which are part of the Circular Economy package.

⁹ National strategy for sustainable development by 2030

2. Monitoring progress

Monitoring of the transition and achieving more sustainable resources in the economic cycle in the country is a challenging task, especially in relation to availability of and accessibility to relevant, verifiable data, as well as the indicators to measure the progress.

2.1. Legislation: general overview and main aspects

No	Name	Relevance	EU levers (examples)	National legislation
Production and consumption				
1	<i>Self-sufficiency for raw materials</i>	The circular economy should help to address the supply risks for raw materials, in particular critical raw materials.	Raw Materials Initiative; Resource Efficiency Roadmap	
2	Green public procurement	Public procurement accounts for a large share of consumption and can drive the circular economy.	Public Procurement Strategy; EU support schemes and voluntary criteria for green public procurement	<ul style="list-style-type: none"> • Law on Public Procurements (2017) • Strategy for Development of Public Procurement System in Montenegro for the period 2016-2020 • Annual report 2017 – Realization measures from the Action Plan of the Strategy for Development of Public Procurement System
3a-c	Waste generation	In a circular economy, waste generation is minimised.	Waste Framework Directive; directives on specific waste streams; Strategy for Plastics	<ul style="list-style-type: none"> • UNDP Resource efficiency and sustainable human development. • National Sustainable Strategy 2007 - 2012 • National Strategy for Sustainable Development by 2030 • Waste Management Strategy by 2030 • National Waste Management Plan (2015-2020) • Local waste management plans • National Strategy for Approximation in Montenegro for the period 2016-2020 • Law on Waste Management 2016 • Report on the Implementation National Waste Management Plan 2017

4	Food waste	Discarding food has negative environmental, climate and economic impacts.	General Food Law Regulation; Waste Framework Directive; various initiatives (e.g. Platform on Food Losses and Food Waste)	<ul style="list-style-type: none"> • Law on Waste Management 2016 • National Waste Management Plan (2015-2020) • National Strategy for Sustainable Development by 2030
Waste management				
5a-b	Overall recycling rates	Increasing recycling is part of the transition to a circular economy.	Waste Framework Directive	<ul style="list-style-type: none"> • National Strategy for Sustainable Development by 2030 • Waste Management Strategy by 2030 • National Waste Management Plan (2015-2020)
6a-f	Recycling rates for specific waste streams	This reflects the progress in recycling key waste streams.	Waste Framework Directive; Landfill Directive; directives on specific waste streams	<ul style="list-style-type: none"> • Law on Waste Management (2016) • Regulation on the method and procedure for application of battery and accumulators on market, establishment of the termination collection and determination (2010) • Regional and local waste management plans • Rulebook on landfills • Report on the implementation of National Waste Management Plan
Secondary raw materials				
7a-b	Contribution of recycled materials to raw materials demand	In a circular economy, secondary raw materials are commonly used to make new products.	Waste Framework Directive; Eco-design Directive; EU Ecolabel; REACH; initiative on the interface between chemicals, products and waste policies; Strategy for Plastics; quality standards for secondary raw materials	<ul style="list-style-type: none"> • Waste Management Strategy (2008-2020) • National Strategy for Clean Development Mechanism (2007) • Set of Rulebooks on eco labelling (food, chemicals, textile, wood, detergents, tourists accommodation) • Decree on procedure for establishing a system of collection and treatment of the waste packaging (OGM, 42/12) • Decree on the method and procedure for establishing the system for acceptance, collection and treatment of waste batteries and accumulators and operation of the system (OGM, 39/12).
8	Trade in recyclable raw materials	Trade in recyclables reflects the importance of the internal market and global participation in the circular economy.	Internal Market policy; Waste Shipment Regulation; Trade policy	<ul style="list-style-type: none"> • <i>Import, export and transit of hazardous waste in Montenegro is performed according to the Basel Convention on the Control of Transboundary Movement of Hazardous Waste and its storage.</i>
Competitiveness and innovation				

9a-c	Private investments, jobs and gross value added	This reflects the contribution of the circular economy to the creation of jobs and growth.	Investment Plan for Europe; Structural and Investment Funds; InnovFin; Circular Economy Finance Support Platform; Sustainable Finance Strategy; Green Employment Initiative; New Skills Agenda for Europe; Internal Market policy	<ul style="list-style-type: none"> • Horizon 2020 • Strategy of development of Micro, Small and Medium enterprises in Montenegro 2018 – 2022
10	Patents	Innovative technologies related to the circular economy boost the EU's global competitiveness.	Horizon 2020	INVO Project – setting up the scientific technology park – ongoing

2.2. Quality of Data

Quality data generation (and availability) is prerequisite for designing evidence-based strategies and for further monitoring of the progress in any sector, including the developments in the sectors that are fundamental for the circular economy (aspects of circularity of resources in the production and consumption, from waste management, secondary raw materials, stimulation of circularity of resources in competitiveness and innovation initiatives).

Data on **municipal waste** are unreliable and inconsistent. Data on industrial wastes are of low quality. The scope for measuring performance against key targets is limited as the data are absent or unreliable, and the basis for forward projections is relatively weak. These data-related shortcomings are recognised in the National Plan for waste management 2015 - 2020.¹⁰

For instance, concerning waste management, even though there are legal provisions (Rulebook on the manner of keeping records of waste and the content of a form on waste transport (Official Gazette of Montenegro, 50/12);) the data is inconsistent.

For example: according to the MONSTAT (Statistical Office of Montenegro) the total amount of the collected communal waste for 2017 is: **292.762t**¹¹, according to the Ministry for Sustainable Development and Tourism the total amount of the collected communal waste in 2017 is: **254.523t**¹². This means that there is no standardized methodology between relevant institutions for collecting data regarding the waste management. Without defined methodology for collecting data about waste management between relevant institutions, there is no efficient way for waste management and transition from linear to circular economy.

¹⁰ A comprehensive assessment of the current waste management situation in South East Europe and future perspectives for the sector including options for regional co-operation in recycling of electric and electrical waste

¹¹ <https://www.monstat.org/userfiles/file/otpad/2017/Saopstenje%20Komunalni%20otpad%202017.pdf>

¹² Izvještaj o sprovođenju Državnog plana upravljanja otpadom 2015 – 2020 za 2017, oktobar 2018

The most important point related to the transition from linear to circular economy is establishing communal infrastructure for waste disposal.

In terms of landfill infrastructure, there are two sanitary landfills in the country designed to, or close to, EU standards. A further four are in various stages of design / seeking financing support.¹³

According to the **Report on the Implementation of the National Waste Management Plan in 2017**, from the total amount of generated waste

- 154,973 tons of municipal waste **were deposited at landfills (about 61%),**
- 50,147 tons of municipal **waste is temporarily stored (about 20%),**
- 4.416 tons of primary and secondary selection for reuse and recycling is separated;
- recyclable fractions, separately collected 21,987 tons of bulky and biodegradable waste.

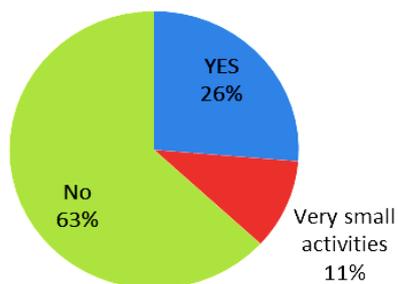
According to that it can be concluded that about **10% of the total amount of municipal waste is reused or recycled;**

This unsatisfactory situation reflects inadequate infrastructure, especially in the North and the northern part of the Central regions, as well as a lack of proper enforcement in those areas where sanitary landfills already exist.

NGO Green Home has prepared **Analyse of waste management in Montenegro**. For the purpose of analyse it has been used local and national waste management plans and annual reports on its implementation. In total it has been analysed **19 local managements plans and reports of its implementation** where it should be applicable. Three municipalities (Plav, Nikšić and Budva) has not been include in Analyse because there has not been plans available on its web sites even though Green Home ask for them according to the **Request for free access of information**. In five municipalities (Podgorica, Herceg Novi, Bar, Kotor and Tivat) there has been activities related to the waste separation and recycling. In two municipalities Kolašin and Mojkovac recorded very small activities regarding waste separation and recycling. In the rest municipalities (in total 12) there is no any amount of separate waste for recycling.

¹³ These proposed landfills will be developed in Nikšić (located in Budos), Herceg Novi (located in Duboki Do), Bijelo Polje (located in Celinska Kosa), and Berane (located in Vasov Do).

Recyclling activities in local municipalities in Montenegro

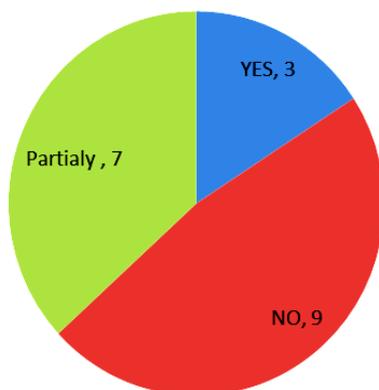


The reason for this situation is the lack of infrastructure and insufficient coverage of rural areas with communal services and infrastructure.

Two local government units - municipalities (Nikšić and Kotor) **have not established municipal waste management** in accordance with regulations.

According to the Law on Waste Managment, municipalites are obliged to prepare **Annual Report on Implementation Local Waste Managment Plans**. According to the Analyse in total **three municipalites** (Podgorica, Cetinje, Tivat) prepared annual reports according to the Law. **Nine municipalities has not prepared report** and **seven municipalities prepared report but it does not include all nessessery data's** which are proscribed by *Rulebook on the detailed content and manner of submission of annual reports on the implementation of waste management plans*.

Annual report on implementation Local Waste Management Plans in 19 municipalities in Montenegro



According to the analyse of waste management in Montenegro in Montenegro there are **373 unordered landfills** which include as well **temporary dumpsites** although the deadlines for their closure is passed.

In the municipality of Berane, a medical waste treatment facility was installed to collect medical waste from the territory of municipalities: Kolašin, Mojkovac, Bijelo Polje, Pljevlja, Berane, Rožaje, Andrijevića and Plav and in the City of Podgorica.¹⁴

2.3. Circular Economy initiatives in Montenegro

In the recent years, there have been some initiatives and actions, which promote the concept of circularity of resources (materials, goods, and services) in the economy cycle, even though many were not explicitly named as “circular economy” activities.

- ***Bike-sharing***

Bike sharing is a service in which bicycles are made available for shared use to individuals on a short-term basis for a price or free. The capital city Podgorica has developed the business plan for this service and according to the business plan, it will cost 300.000EUR.¹⁵

- ***Reduction of communal waste and raising awareness of recycling***

Currently there are several on-going initiatives (International Coastal Day, Let's do it Montenegro). The main aim of these campaigns are to support citizens on proactively participation in the solving the problems related the environmental protection specially the waste disposal.

- ***Smart city - Podgorica***

Capital city Podgorica in cooperation with the company Siemens developed the Study: “Development of energy efficient infrastructure” which is the first step in the developing Podgorica in a “smart city”. This study has been developed/ within the global programme *Business to Society* which is funded by Siemens company.¹⁶

- ***Initiative: “Svaka limenka se računa” - Every can is counted***

The program "Every can is counted" is a partnership between cans manufacturers, beverage manufacturers, the recycling industry and environmental organizations, who know how much recycling cans is important and want to encourage you to recycle more. The campaign "Every can is counted", launched in England, is also being reported in Ireland, Austria, Hungary, Romania, France, Scotland and Greece, and in 2013 it was realized for the first time in Montenegro.¹⁷

- ***Collecting EE (electrical – electronic) waste in Montenegro***

NGO Green Heart in cooperation with the company Hemosan lunched the action: collecting the EE waste. In 2015, within this initiative is collected, storage and export in total 150t of the EE waste. Also, this NGO lunched the first ecological – energy portal: reciklirajte.me¹⁸

¹⁴ Analysis – Chapter 27, Enviroment and Climate protection, Coalition 27

¹⁵ <http://www.vijesti.me/bike-sharing-sistem-u-podgorici-uskoro-20-elektricnih-i-80-konvencionalnih-bicikala-za-iznajmljivanje-991653>

¹⁶ <http://podgorica.me/2018/06/15/predstavljena-studija-smart-city-podgorica-razvoj-energetski-efikasne-infrastrukture-i-servisa/>

¹⁷ <http://www.svakalimenkaseracuna.me/o-nama>

¹⁸ <http://www.vijesti.me/vijesti/drzava-se-ne-plasi-opasnog-otpada-980688>

3. Findings

Using the approach and logic of the EU proposed Monitoring framework and indicators¹⁹, the assessment of the current state is grouped under the following stages and aspects of the circular economy: (1) production and consumption, (2) waste management, (3) secondary raw materials and (4) competitiveness and innovation. This broadly follows the logic and structure of the EU circular economy action plan.

3.1. Production and consumption

Limited progress can be observed towards more circular trends in production and consumption, in terms of waste generation.

The indicator on self-sufficiency is related to measuring the extent to which the country is dependant to supply of raw materials. In that respect, Montenegro belongs to the group of raw materials dependant countries.

According to the last press releases of the Statistical Office of Montenegro in the period January – December 2018²⁰ the data show that the export of goods amounted to 400.1 million euros, and imports amounted to 2 553,6billion euros.

In the structure of exports according to the Standard International Trade Classification (SITC), the products classified by material amounted to 107.2 million euros (of which: Non-ferrous metals - 74 million euros, Iron and steel – 18.9 million euros and others).

In structure of imports according to MONSTAT, the most represented are Machines and transport devices (sector 7) in the amount of 638.1million euros (out of which: Road vehicles – 187.2 million euros, Electrical machines, apparatus and devices – 124.3 million euros and other)

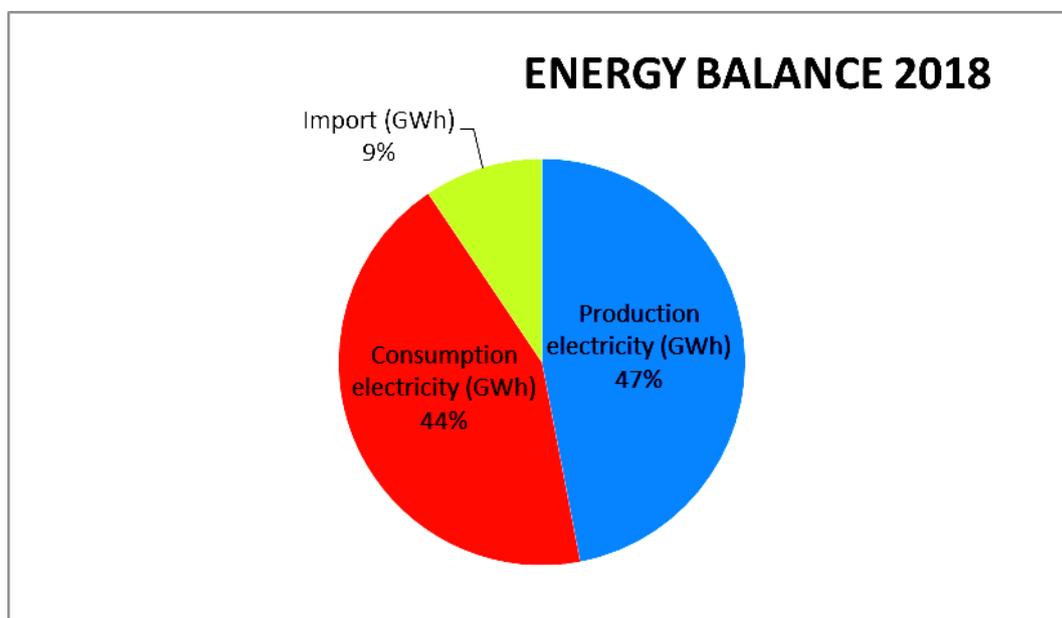
Conclusion: having in mind these data's Montenegro **is import dependent country.**

In terms of **energy**, according to the Energy balance for 2018²¹, the **realized production in 2018 was 3743,8GWh per year, the realized consumption was 3473,9GWh**, while for the mentioned year the total import was **752,5GWh**. Taking into account the above, it can be concluded that **Montenegro is energy-stable**, however, given that the biggest percentage of electricity comes from hydropower plants, there may be fewer or greater deviations from what is planned by the energy balance, and in that sense, there may be fluctuations in imports and exports electric energy. (Due to hydrological conditions)

¹⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1516265440535&uri=COM:2018:29:FIN>

²⁰ <https://monstat.org/userfiles/file/spoljna%20trgovina/2019/Spoljnotrgovinska%20robna%20razmjena%20Crne%20Gore%20jan-dec%202018.pdf>

²¹ http://www.epcg.com/sites/epcg.com/files/multimedia/gallery/files/2014/04/energetski_bilans_za_2018._godinu.pdf



Public procurements in Montenegro amounted to 10.38% of GDP in 2015²². Although the *Law on Public Procurements* stipulates possibilities to apply criteria related to environmental protection and energy efficiency (“green procurements”), this option is insufficiently used in practice.

In Montenegro, “**green public procurement**” is not widely used in a way to provide that aside from the prices of products and services, procurements take into account the costs of negative impacts of consumption and production on the environment and social aspects. In that context it is significant to emphasize that integration of energy efficiency requirements into the processes of public procurement is missing. There is no awareness, preparedness, nor legal and technical knowledge and skill of the officials in charge of the application of the criteria relevant for green public procurement during implementation of tenders for the procurement of products and services without negative social and environmental impacts.²³

3.2. Waste Management

According to the data of the Statistical Office of Montenegro - MONSTAT the total amount of **generated municipal waste** in the Montenegro in 2018 was **330,839 tones**. Compared to 2017, the total amount of collected municipal waste increased **by 2,1%**²⁴. In total 292 762 t was collected.

According to the Statistical Office of Montenegro - MONSTAT the total percentage of the separate fraction is 20%, from which: 12.3% green waste, of 7,6 % separate collected fractions and packaging waste 0,1%.

According to the last report of the implementation National Management Plan for Waste Management 2015 – 2020 for 2017, on landfill has been disposed in total: 154,973t (61%); temporarily storage in total 50.147t (20%) and for the recycling is separately in total 26 403t (10%). (recyclable fractions, EE waste and green waste) This means that the dominant way in the management of collected municipal and other types of non-hazardous waste is the disposal, i.e. landfilling of the waste at legal and illegal landfills and recycling rate is 10%.

²² Public procurements participated with 9.46% in GDP in 2014, Ministry of Finance, May 2016;

²³ National Strategy for Sustainable Development 2030

²⁴ State Statistical Office, News Release No, 99 from 03.06.2019.

There is no explicit data about the recycling rate of the packaging waste. Pursuant to the draft proposal on Law on Waste Management Article 56, proscribe following:

An enterprise that manages an organized collection, collection and treatment system for waste packaging must take measures to ensure recycling by December 31, 2030, at least 55% of the total weight of the packaging placed on the market in order to achieve at least the next recycling ratio of the individual components:

- 1) 60% of the weight of the glass;
- 2) 60% by weight of paper and paperboard;
- 3) 50% of the weight of the metal;
- 4) 22.5% of the weight of the plastic;
- 5) 15% of the wood mass.

An enterprise that manages the collection, collection and treatment of packaging waste must undertake measures to ensure recycling by December 31, 2035 at least 65% of the total weight of the packaging placed on the market in order to achieve at least the next recycling ratio of individual components :

- 1) 70% of the weight of the glass;
- 2) 75% by weight of paper and paperboard;
- 3) 70% of the weight for iron metals and 50% for aluminium;
- 4) 50% of the weight of the plastic; i
- 5) 25% of the wood mass.²⁵

Although they are present a serious danger to human health and the environment, there are no precise data on specific types of waste in Montenegro, it is rarely recycled and most end up in landfills or burned.

Under special types of waste, there are electrical and electronic products (EE), waste vehicles, tires, batteries and accumulators, waste oils, packaging, construction waste, asbestos waste, sewage sludge, medical and veterinary waste.

Precise data on quantities and types of waste do not exist, but projections in the State Waste Management Plan indicate that it is taking alarming proportions.

German's experts in terms of waste management within circular economy has prepared document: ***Modern Waste Goals and Paths – Germany's expertise for an advanced circular economy***. According to this document every country have to pass these five phases in terms of waste management towards circular economy.

- Phase 1 – Extensive uncontrolled dumping
- Phase 2 – Reliable collection and better landfill sites
- Phase 3 – Separate collection and sorting
- Phase 4 – Expanding the recycling industry
- Phase 5 – The circular economy – waste as a resource

²⁵ Draft on Law on waste management – Should be adopted by the end of 2018.

The phases 3 – 5 constitute the transition from waste disposal to a circular economy

If we replicate this scheme on Montenegro, based on analyse on local waste management plans situation is following:

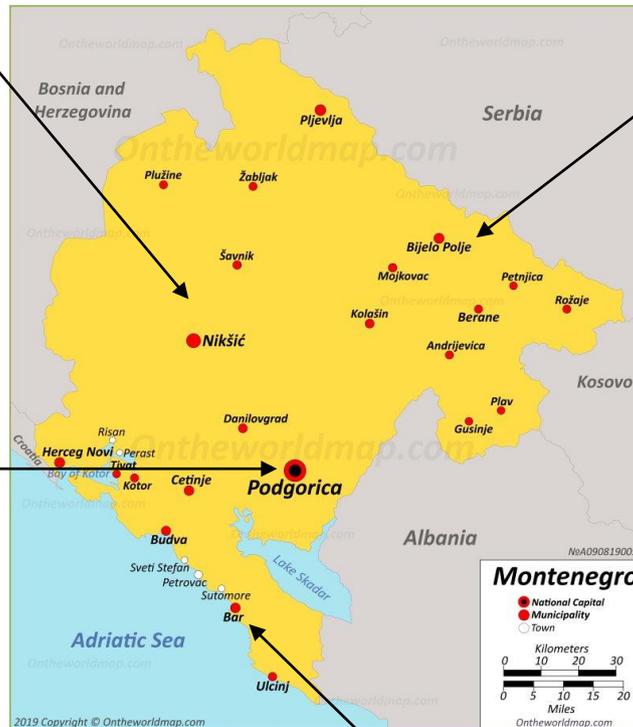
Center Nikšić – 76.873

Phase 1 - Extensive uncontrolled dumping

Phase 1 - Center Bijelo Polje – 169,014
Extensive uncontrolled dumping

Center Podgorica – 225,613

Phase 2
Phase 3



Center Bar 149,531
Phase 2 – Reliable collection and better landfill sites
Phase 3 – Separate collection and sorting

3.1. Secondary raw materials

The contribution of recycled materials to satisfying the demand for raw materials is still small to negligible. In the Montenegro, there are recycling facilities for plastic, paper and vehicles. But, having in mind that industry in MNE is lack developed all recycled materials are exported.

However, the country lacks recycling facilities for glass, batteries, and electrical and electronic equipment.

3.2. Competitiveness and innovation

Concerning innovation, European Innovation Scoreboard²⁶ does not include Montenegro. As a rule, countries can be included only if data are available for at least 20 indicators. According to available data's Montenegro does not fulfil the conditions.

4. Concluding notes

- Montenegro has not yet made the transfer from linear to circular economy.
- The concept of circular economy usually is identified with the green economy;
- In terms of waste management as a part of the circular economy, Montenegro has problem with the implementation local management plans and unreliable data's on communal waste.
- We have numerous barriers on the way of using technical materials, including minerals, in the context of introducing circular economy concepts.
- Mitigation of pollution or innovativeness is not encouraged, whereas lack of political and other measures for internalization of external costs is evident.
- Inter- sectoral and cooperation among separate chains of value is insufficient, potentially more efficient models of production and consumption are not well accepted by producers and consumers.
- Lack of investments into renewal and maintenance of the existing infrastructure, into innovations and technologies is present (stuck within the use of the existing technologies), as well as insufficient waste separation and recycling.

²⁶ European Innovation Scoreboard 2018

5. References / Bibliography

A comprehensive assessment of the current waste management situation in South East Europe and future perspectives for the sector including options for regional co-operation in recycling of electric and electrical waste

Analysis – Chapter 27, Environment and Climate protection, Coalition 27

Draft on Law on waste management – Should be adopted by the end of 2018.

European Innovation Scoreboard 2018

Ministry for tourism and sustainable development - Information sent to Green Home by e – mail.

National strategy for sustainable development 2030

Public procurements participated with 9.46% in GDP in 2014, Ministry of Finance, May 2016;

State Statistical Office, News Release No, 9.1.18.01 from 20.04.2018

UNDP_Resource efficiency and sustainable development 2014

Izveštaj o sprovođenju Državnog plana upravljanja otpadom 2015 – 2020 za 2017, oktobar 2018

<http://podgorica.me/2018/06/15/predstavljena-studija-smart-city-podgorica-razvoj-energetski-efikasne-infrastrukture-i-servisa/>

<http://www.svakalimenkaseracuna.me/o-nama>

<http://www.vijesti.me/bike-sharing-sistem-u-podgorici-uskoro-20-elektricnih-i-80konvencionalnih-bicikala-za-iznajmljivanje-991653>

<http://www.vijesti.me/vijesti/drzava-se-ne-plasi-opasnog-otpada-980688>

<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1516265440535&uri=COM:2018:29:FIN>

<https://www.monstat.org/userfiles/file/otpad/2017/Saopstenje%20Komunalni%20otpad%202017.pdf>

<https://www.monstat.org/userfiles/file/spoljna%20trgovina/2017/12/Spoljnotrgovinska%20robna%20razmjena%20Crne%20Gore%20jan-dec%202017.pdf>

