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## Circular Economy Report Bosnia and Herzegovina



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## 1. Introduction

Circular Economy represents new term used more often in recent years (decade). In general, Circular Economy represents regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops; this can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling.

Circular economy (CE) is a concept currently promoted by the EU, by several national governments including China, Japan, UK, France, Canada, The Netherlands, Sweden and Finland as well as by several businesses around the world. It entails gradually decoupling economic activity from the consumption of resources, and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles: (1) designing out waste and pollution, (2) keeping products and materials in use and (3) regenerating natural systems. The importance of the concept of circular economy is in its emphasis on the systemic shift that “builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits”, which is a step away from the traditional recycling practices. Circular economy brings into business practices emphasis on product, component and material reuse, remanufacturing, refurbishment, repair, cascading and upgrading as well as solar, wind, biomass and waste-derived energy utilization throughout the product value chain.

In short, in order to progress, the entire business as a system needs to change, exploring also the way our economy works. In addition, there is a need to rethink and redesign organizational and production processes, designing products that can be “made to be made again” and powering the system with renewable energy. An important element of such change is also a consideration of competences in business organizations as well as support organizations: it questions whether with creativity and innovation we can build a restorative economy. Consequently, there is an emphasized need to develop “green jobs”, which are not concerned just by working in the sectors recognized as “green”, but also by working in organizations who are using the circular economy approach.

There is no explicit EU Directive on Circular Economy. In June 2018, a CE package was adopted, including the upgrading of existing Directives (on waste, landfills, packaging waste, EE waste, etc.) and the proposal for creation of an action plan. The EU has clear CE-related goals and they have been incorporated through new annexes into these Directives. These new annexes will be transposed into related laws and policies in Bosnia and Herzegovina.

## **2. Status of Circular Economy in Bosnia and Herzegovina**

Bosnia and Herzegovina consists of two entities and one district area. The state and entities have its own laws, policies and procedures, while Brčko district is following the legislation from Republika Srpska.

In all related laws, policies and regulations in both entities and on the state level, the term “Circular Economy” does not exist. Scientist, authorities or people in general, who are not informed and educated enough on this term, even started to confuse CE with recycling, while, recycling should be just one loop in the overall chain of the Circular Economy.

In Bosnia and Herzegovina, there are not enough and valid information in local languages on the CE. Thus, the initiatives and projects on CE are not developed and implemented in the manner that the EU defines CE.

Authorities, both state and entities, did not transpose the annexes and new articles of the related EU Directives into local laws and policies. There are no legal articles, nor related CE reports on the state-of-the-art on Circular Economy issues.

Green procurement issue is presented as part of the EU Action plan of CE. Even in EU, business sector is not dedicated to these procedures, since mostly instead of progressing it prevents the advancements and competitiveness. In Bosnia and Herzegovina, there is no public institution that has and respects the Green procurement policy. Even in the world, known companies are more declarative on the green procurement, than they are really implementing it.

### **2.1. Circular Economy process**

The CE is presented through minimization of resources, not just raw materials, but others such as water and energy. The CE starts in product design, because the producer needs to design the product while minimizing the resource usage (reduce resource footprint) and then after the product stops to provide its basic function, the producer is using that product and puts it or its parts into another function. At this stage, recycling is just one of the options. Product repair or changed product purpose are the first priority, and then recycling comes as next stage. Recycling is a tool, as further stage of changing/improving product usage.

Furthermore, the product placement mode is changed, and thus the business model is changed. Actually, producers are selling a function rather than a product, and users rent and do not buy a product. For example: we do not need a TV device, but a function of viewing the motion picture. That is the purpose of TV device. In this business model, for example, TV producer rents a TV device to the customer and does not sell it. The producer sells the service of viewing. In such business model, TV producer is the owner of the entire lifecycle of that device, and by this it is motivated to design the TV device in long-lasting mode without repairs every once and a while. The producer is saving the material; make the product easy to disassemble and repair it, or to use it as recyclable materials, etc.

The change of business model from linear to circular economy production gives companies more benefits. Producers get customer loyalty; it has been proved that the rental service in comparing to sales has a significantly higher customer retention. Customers/users are offering the most necessary feedback on products, that allows the product to be improved, then the company image improves and in the end, this product is becoming the source material or secondary raw materials for new products. The procedure and theory of Circular Economy is nicely placed in theory, but in practice, it is much harder to implement. However, many international companies are slowly but surely turning to CE as it is considered as one of the key competitiveness strategies in the future.

Reasons why many companies will adopt pattern of circular economy is reflected in the benefits, that is raw material value (less raw material for new products), ecological advantages (reduction of pollution), customer retention (customer loyalty increases) and information value (firms receive direct customer feedback in product connection). In our region, there is no producer that offers its products under the label of circular economy, but actually, there are some that are applying this principle. A good example are ESCO companies (Energy Service Company) offering its customers a comfort (e.g. heat or light) instead of heat delivery. Electricity company "Ecoton" from Sarajevo offers services printing on the spot (hire of a printer) instead of selling printers and toners, and also "Kabletech" offers tools rental (why buy a drill that is used for 30 minutes in their lifecycle). Then platform car and bike sharing also the models of the circular economy that are represented in all countries of the region. In addition, the auto pooling option is a model circular economy that is present in the countries of the region (Uber, BlaBlaCar, and others). These models are not exact models of circular economy, but they certainly need to be supported and promoted.

## 2.2. Legal background for CE

The legal background in which Circular Economy term will be incorporated after the transposition of the related EU Directives are presented in the following tables:

### 2.2.1. Renewable Energy

<b>Renewable energy</b>	<b>Date</b>
Bosnia Herzegovina adopts its First Progress Report for Bosnia and Herzegovina under Renewable Energy Directive 2009/28/EC.	November 2017
Secretariat submitted draft amendments to Renewable Energy Laws in force of Republika Srpska and Federation, introducing support schemes for renewable energy in compliance with State aid guidelines.	July 2017
Bosnia and Herzegovina adopts National Renewable Action Plan	April 2016

### 2.2.2. Energy Efficiency

<b>Energy efficiency</b>	<b>Date</b>
The Council of Ministers adopted the Action Plan for Energy Efficiency in Bosnia and Herzegovina in the period 2016 - 2018	February 2018
Regarding energy efficiency measures in buildings, the EBRD Green Economy Financing Facility launched a comprehensive program for energy efficiency	November 2017

improvements in the residential sector.	
Government of Republika Srpska in November 2017 adopted the Amendments to the Energy Efficiency Action Plan of RS until 2018.	November 2017
Government of the Federation of BiH adopted Energy Efficiency Action Plan and roadmap for implementation of Directive 2012/27/EU on Energy Efficiency.	July 2017
Federation adopted the Law on energy efficiency, aiming to implement Energy Services Directive 2006/32/EC.	February 2017
Three regulations came into force in Republika Srpska, setting the minimum energy performance requirements for buildings, as well as implementing schemes for energy audits and energy certification of buildings.	January 2016

### 2.2.3. Environment

Environment	Date
Environmental Approximation Strategy of BiH adopted	May 2017
Secretariat gave a positive assessment on Bosnia and Herzegovina's National Emission Reduction Plan.	October 2016
Bosnia and Herzegovina submitted its National Emission Reduction Plan to the Secretariat	December 2015

### 2.2.4. Water Quality

Water quality	Date
Federation of BiH: Urban Waste Water Treatment directive 91/271/EEC have been transposed by the Order on conditions for wastewater discharge to natural recipient or to public sewage (Official Gazette of FBiH 4/12) Republika Srpska: Transposition of the Urban Waste Water Directive 91/271/EEC is considered fairly advanced	2012 and 2001
Transposition of the Water Quality Standards Directive 2008/105/EC is at an early stage	N/A

### 2.2.5. Waste Management

Waste management	Date
Law on packaging waste	2018
Decision on requirements for transboundary transport of hazardous waste.	September 2016
Law on nuclear waste	2009
Law on waste management	2002/2003

## 2.3. Best practices examples in our country

*Green entrepreneurship* has developed as a concept of entrepreneurs, taking conscious action to address environmental issues. Such actions can be as simple as developing a recycle and reuse policy in the company for materials such as paper or plastic. It can also be more advanced, such as using new techniques for reducing emissions of production gases or using renewable energy instead of fossil fuels. There are three main segments of green entrepreneurship, that at the same time present also three basic pillars of sustainable development (see also the beginning of

this chapter): protecting the environment and preserving resources; social welfare; economic sustainability.

*Eco innovation* is usually defined as all forms of innovation activities, resulting in or aimed at significantly improving environmental protection. It includes new production processes, new products or services and new management and business methods, the use or implementation of which is likely to prevent or substantially reduce the risks to the environment, pollution and any other negative impact of the use of resources throughout the lifecycle of related activities.

Example 1: *Green system innovation is installation of a low-enthalpy geothermal system utilizing Ground Couple Heat Pump system for heating/cooling, that gathers heat from three vertical probes, each 100 meters deep and contributes to saving energy from heat. The action has been implemented in the framework of the IPA Adriatic project LEGEND. It is also a demonstrative action that motivated development of green jobs in the wider region of Srbac (Republika Srpska, Bosnia and Herzegovina). (<http://www.ipadriaticbc.eu/projects/legend/>)*

Example 2: *An initiative of the City of Banja Luka replacing a formerly inefficient district heating system using heavy oil with a more efficient system, using renewable resource: wood biomass. The action was implemented through public and private partnership. Such green heating technology has brought positive economic and environmental effects, improved the quality and sustainability of district heating and has at the same time created opportunities for new jobs in wider region of Banja Luka (Republika Srpska, Bosnia and Herzegovina). (<https://ekotoplanebanjaluka.com/>)*

Reports on waste management, Agency for statistics of BiH states that only 3,5% of communal waste is separately collected, and thus it is considered that even much less than 3,5% is recycled. There are no specific statistical data on the waste recycling, and it is considered that less than 10% of all disposed waste is recycled.

In Bosnia and Herzegovina, waste separation is not conducted. Waste bins for different types of waste are present in just some cities, and not on every waste disposal place. Even if there are waste bins or containers that are marked for specific waste type, habitants mostly do not respect this separation and put everything together. On the other hand, even if habitants are aware and use these marked containers properly, the waste collection truck is “one for all”, and collects waste in just one tank – all mixed, and takes it to the dumpsite, with also mixed waste. Recycle backyards are set up in few EU funded projects, but the trend is not live yet, and is not defined by laws and policies.

Unfortunately, in BiH there is no waste market. Thus, the waste collectors are repurchasing specific waste and making their own price per its own will. Average prices per one kilogram are:

- Scrap metal/iron 0.10 – 0.40 BAM (0.05 – 0.21 EUR)
- Aluminum 1.00 – 3.00 BAM (0.51 – 1.53 EUR)
- Copper 8.00 – 10.00 BAM (4.09 – 5.11 EUR)
- PET 0.10 – 0.50 BAM (0.05 – 0.26 EUR)
- Paper 50.00 – 100.00 BAM per 1 ton (25.56 – 51.13 EUR)
- White paper (super clean) 200.00 BAM per ton (102.26 EUR)

Prices are different in different parts of the country, different areas (rural - urban).

Example 3: Recycling, as one part of the Circular Economy process, applies in several companies in BiH. “Omorika PET” from Doboj collects, recycles and produces PET bottles. “Eko-Servis” from Tešanj from the waste emulsion produces distilled water. “SGI” from Sarajevo is recycling car tires. There are no companies in BiH, that are 100% dedicated to the principles of the Circular

Economy. There are various reasons for this: obstacles in international market opportunities, management decisions which are directed to income and survival not on long-term, lack of infrastructure, lack of strategic partners, buyers will and perception, etc.

In most cities and municipalities, such as Banja Luka, Sarajevo, Jelac, Vitez, there are physical persons and small entrepreneurs that collect these types of waste. They are selling it to the bigger companies, which then export the waste (paper, glass, metal, plastic).

Since BiH is in the process of the EU accession, major obstacles will be done and implemented in the following period. The majority of the work to be done is in the sector of waste management. The EU Directives in this sector are becoming stricter, and thus this would be the greatest challenge of Bosnia and Herzegovina to achieve.

### **3. Conclusions and recommendations**

There is no explicit EU Directive on Circular Economy. In June 2018, a CE package was adopted, including the upgrading of existing Directives on waste, landfills, packaging waste, EE waste, etc. The EU has clear CE-related goals and they have been incorporated through new annexes into these Directives. These new annexes will be transposed into related laws and policies in Bosnia and Herzegovina.

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There are state and entity laws and policies, in which CE principles will be incorporated. The major work is to be done in the area of waste management.

Even if the CE is not known and widely implemented, in Bosnia and Herzegovina there are some best practice examples: offering services of printing on the spot, hire of a printer instead of selling printers and toners; and offering tools rental, platforms for car and bike sharing; waste collection, recycling and producing PET bottles; car tires recycling. All these examples are showing that the initial will exists.

The Circular Economy starts in product design, because the producer needs to design the product while minimizing the resource usage (reduce resource footprint) and then after the product stops to provide its basic function, the producer is using that product and puts it or its parts into another function.

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