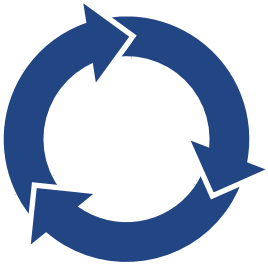

GAP Analysis

Opportunities for Economic Empowerment through Sustainable Business Models in the Aftermath of the COVID-19 Pandemic in the Republic of Serbia

Authors: Sandra Kamberović, Siniša Mitrović, Arno Behrens, PhD

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Introduction

Circular economy (CE) is an economic concept that contributes to the (sustainable) enhancement of business competitiveness without contributing to further environmental degradation. CE has been recognised as a positive economic model for the whole of society because it contributes to the fight against climate change, reduces pollution and uses resources in a sustainable way. CE is a system in which a new value is created with minimum waste generation, reduced use of energy and natural resources. This business model is based on savings. Innovative business models of circular economy enrich the local production, reduce dependence on imports, align business operations with the natural capacity of the environment and increase the resilience of companies. As such, it has become a leading initiative for sustainable development and has captured the global attention of both decision makers and academia over the last five years. According to European calculations, the implementation of CE business models has the potential to create 700,000 new jobs in all sectors and all industries and to increase GDP by 0.5% by 2030. The current business models applied by the EU companies in the production sector spend an average of 40% on inputs. Shifting to CE can increase their profitability by the recovery of materials used through recycling and modular design.

The CE concept can contribute to a faster economic recovery after the COVID-19 global crisis.

In 2020, the world faced a health crisis with immeasurable health, social and economic consequences. The COVID-19 pandemic has seriously changed the world, compromised national economies and undermined public security.

Given the global situation caused by the pandemic, but also the climate and environmental crisis faced by the world, countries should define and harmonise the criteria related to business conditions in the new circumstances. It should be noted that this is not only a task for decision makers, who certainly have a leading role

in this process, but also for industry that (among other things) should apply the most appropriate business models with maximum savings in the circumstances of COVID-19 crisis and global recession.

The health, social and economic crisis has found countries at different levels of preparedness to function in new emergencies. In response to the crisis, states initially implemented certain restrictive measures to prevent, control and stop the pandemic. The measures ranged from closing borders, restricting cross-border traffic, restricting the operation of certain facilities, to quarantine and lockdown. The issues of solidarity, the health of nations, environmental protection, globalisation, resource dependence and established ways of production have become the subject of reconsideration. The global spread of the pandemic, in addition to the catastrophic consequences for human health and increased mortality, has caused a global economic recession and a shock for which the world was not prepared.

The pandemic has hit the labour market leading to an inevitable global decline in GDP. Due to the health crisis, the labour market has been hit by a drop in production, which has resulted in a reduced number of employees and a drop in gross earnings. In order to protect the health of employees, companies have been forced to change their business routine by sending employees to work outside the employer's headquarters (work from home). During the state of emergency, some companies have been forced to suspend production processes and send workers on leave, while during lockdown, most production facilities were shut down. In cases where it was necessary to maintain a minimum of production processes, employers worked in changed circumstances in order to protect the health of employees, i.e. with a smaller number of employees per shift.

The use of digital technologies has contributed a great deal to overcoming obstacles in business activities during the conditions of the health crisis.

Economic measures for crisis mitigation (loans, state aid and social assistance, etc.) taken by states in order to maintain the current liquidity of companies and prevent bankruptcy, have yielded short-term results, but from a macroeconomic perspec-

tive such measures are not sustainable in the long run. Therefore, new possibilities for economic recovery, through sustainable business models and subsidies in new circumstances and for a new "normality" in the future, are being considered.

The European Union has directed its public policies and economic recovery budget towards the concept of competitive sustainability of European companies in accordance with the circular economy business models defined in the Green Deal[1] from December 2019. In the Annual Sustainable Growth Strategy 2021[2], the **EU has focused on the mechanism for recovery and resilience of the EU and its Member States.** With their national plans, Member States should create recovery measures in the context of the Sustainable Growth Strategy that contains the principles of environmental sustainability, productivity, fairness and macroeconomic stability. These four principles ensure the implementation of the Green Deal goals and lay the foundation for a green, digital and sustainable recovery of the European economy and society. The EU budget for 2021 is 672.5 billion euros. The budget includes loans and grants that Member States will be able to use if their national plans are based on green recovery. The new economic reality has led us to the need to change the economic paradigm that equates the importance of economic growth to environmental protection through sustainable investments based on resource savings and maximum use of materials in circulation.

There are opinions that a new global unification is possible through prescribing international trade policies and agreements and through state incentives for the use of new technologies and the development of innovations in the context of green economy. This model is applicable if public policies and regulations, economic measures and fiscal changes are aligned in a synchronised manner, on which the European Commission has been working intensively. This would contribute to meeting the Green Deal goal of making Europe the first CO_2-neutral continent by 2050.

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1 COM (2019) 640 final

2 Annual Sustainable Growth Strategy 2021
https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1600708827568&uri=CELEX:52020DC0575

The Republic of Serbia has been investing efforts and taking all available measures necessary to stop and mitigate the tragic consequences of the COVID-19 health crisis for human lives and economy. The global pandemic has posed a major challenge to the Serbian economy revealing its vulnerability. Economists expect the new global recession to be more severe than the 2008 financial crisis.

The concept of circular economy and CE business models, which are being increasingly discussed in Serbia, could create conditions for a faster recovery of the national economy. Such a transition in the industry is possible with a clearly defined public policy of green recovery and financial support.

This document presents the regulatory and economic guidance designed to recover from the economic and social crisis caused by the COVID-19 pandemic, through the transition to business models based on the principles of CE. The "green recovery" and a sustainable way of doing business is the path that the EU has traced and for which it earmarked significant financial resources that have been made available to both Member States and the countries of the Balkan region. The publication presents the key EU policies that are primarily related to economic recovery and economic growth through sustainable circular business models. A special emphasis was given to the current state of the regulatory framework in the Republic of Serbia with the proposals for reforms in the context of legal certainty and predictability as a primary condition for investment, while not disregarding the importance of profit as a decisive investment factor. The given proposals for transition and economic empowerment through CE business models are based on the experiences of other countries that are more advanced and competitive than the Republic of Serbia.

The methodology used in this analysis consists of a desk review of the regulations and public policies, and surveys and interviews conducted in companies operating in the Republic of Serbia.

The GAP analysis consists of two parts: the first part initially contains an overview of the situation and regulatory framework in the world, primarily in Europe

with examples from Germany, France and Italy[3], and then moves on to consider the Republic of Serbia. The second part presents an overview of the regulatory and administrative framework and the findings of the survey conducted in companies for the purpose of analysis. Based on the analysed findings, proposals were made for the development of a green economy and presented through an economic overview of sectors, which were identified as carriers of change in the Serbian Circular Economy Roadmap.[4]

3 The countries were selected on the basis of close business cooperation with the Republic of Serbia.

4 https://www.rs.undp.org/content/serbia/en/home/library/mdg/roadmap-for-circular-economy-in-serbia.html

Chapter I

Impact of the health crisis on the economy and the environment

Overview of the general economic consequences of the COVID-19 pandemic

Countries with an over-proportionate dependence on **one particular economic sector face higher economic risks.** Examples include countries specializing in tourism or in the export of raw materials such as oil and gas. In addition, **some industrial sectors are more affected than others, including most notably the production of motor vehicles, but also furniture, rubber, beverages, textiles, fabricated metal products, machinery, electrical equipment and paper**[5]. Some other sectors, such as the pharmaceutical industry, seem to be less affected. In addition, supply chain interruptions lead to shortages of parts and intermediate goods. On the demand side, SMEs are affected by demand reductions resulting in substantial revenue losses and liquidity shortages. Companies operating in sectors such as aviation, restaurants, clothing, hotels and tourism are particularly hard hit with revenues decreasing by 80-100%. In other sectors, such as supermarkets, medical, software, games etc., revenues have increased by 10-20%. However, given that SMEs run very short on buffer cash, they cannot sustain periods of longer than 2-3 months without cash flow before they run out of cash.

There is thus a risk that otherwise solvent firms risk bankruptcy while containment measures are implemented. In Europe and Central Asia, for example, many

5 https://www.unido.org/stories/coronavirus-economic-impact-10-july-2020

SMEs are integrated into global value chains and depend on the functioning of EU, Chinese, US and other markets. Small industrial manufacturers across the whole region have been squeezed between domestic COVID-19 containment measures, supply shortages due to upstream supply chain disruptions, and reduced demand for their products at home and in key export markets. In some cases, it has been an advantage for SMEs to have a more limited number of suppliers and to be integrated in regional (rather than global) supply chains. In other cases, regional dependence on COVID-19 hotspots has increased vulnerability.

The most affected sectors at the global level were affected also in the Republic of Serbia; however, the Serbian firms are mainly small ones, independent of global supply chains, unlike companies in the EU countries. It is noticeable that during the shortage of medical equipment, some companies readjusted and unknowingly applied the innovative CE principles to address short-term supply shortages. Due to the positive impact on a companies' business operations and a reduction of costs, it can be assumed that some of them will continue to operate by applying circular economy models. As regards capital investments, the health crisis has accelerated the planning of **large-scale state investment in infrastructure projects**, waste and water management projects, and solutions to air pollution.

At the same time, certain economic sectors, such as transport, tourism and HoReCa, have been most affected by this crisis and suffered losses.

Overview of the general environmental impact of the COVID-19 pandemic

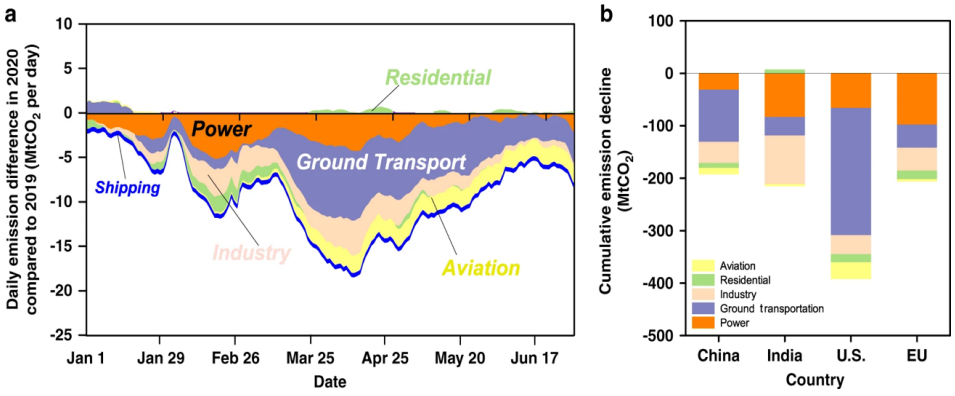
The levels of environmental pollution have decreased during limited movement and "global lockdown". Although the causal link between the environment and the health crisis has been insufficiently investigated, the first studies presented its positive and negative effects.[6]

6 Briefing-Covid-19-and-europes-environment.pdf

Air quality

The most notable change during the period of global lockdown was the decline in CO_2 emissions due to reduced human activity. This resulted in improved **air quality** in those countries most affected by the COVID-19 pandemic (China, Italy, Spain, USA) but also globally. Environmental benefits of the pandemic include a stark (temporary) reduction of fossil fuel use, particularly in industry and transport, including aviation, leading to a short-term dip in CO2 emissions. The pandemic has also encouraged numerous businesses to apply innovative circular-economy principles to address short-term supply shortages. These recycling efforts are likely to be sustained even once lockdown shortages disappear. Due to the reduction of industrial production, a decrease in nitrogen dioxide (NO_2) is also noticeable.

Figure 1: 1a. Sector-specific effects of the COVID-19 pandemic on CO2 emissions globally, shown as the 7-day running mean of daily differences between January 1st and June 30th of 2019 and 2020, and 1b. the cumulative decline by sectors in each of China, India, U.S., and EU27 & UK in the first half-year of 2020



Source: Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic 7

7 Qiang Zhang, Dabo Guan, Peng Gong, Daniel M. Kammen 27, Kebin He11 & Hans Joachim Schellnhube: Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic, (2020) 11:5172 https://doi.org/10.1038/s41467-020-18922-7, www.nature.com/naturecommunications, p. 5

Water sector

The positive effect of the slowdown in industrial production was also seen in **natural watercourses**, whose self-purification mitigated the harmful effects of wastewater inflows.

Noise

A positive impact on the environment is visible in reduced **noise** levels as a result of quarantine and disruption of economic and social activities. The fact that many economic activities took place outside the employer's premises, that social distancing was maintained and that in-person communication was replaced with electronic communication also contributed to the reduction of noise levels.

Waste

However, a negative impact was observed in the **waste management sector**. The fight to reduce the use of disposable plastic was further complicated by a new source of pollution - **disposable protective equipment** (masks, gloves, protective suits, COVID hospital linens), which ends up in rivers and oceans due to improper disposal. In addition, due to difficult transportation, food waste increased as a result of the expired shelf life of the product.

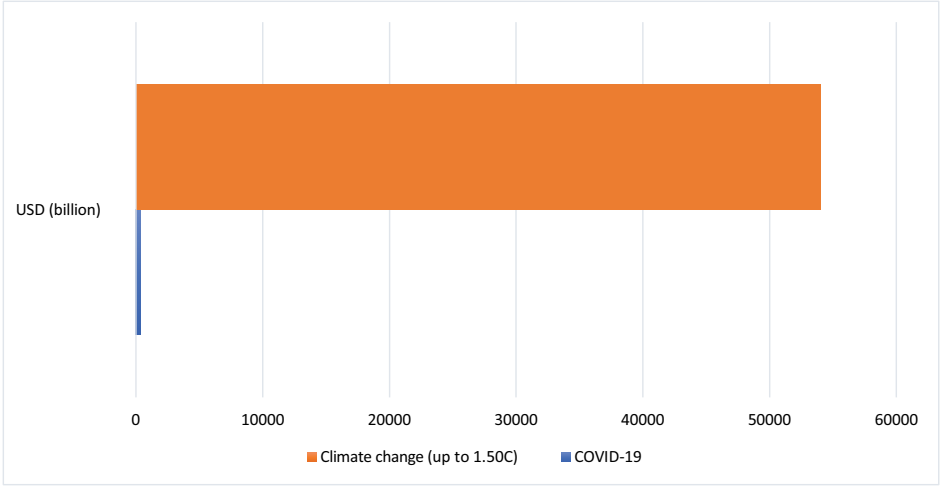
Announced climate crisis

The consequences of the climate crisis could be 150 times greater than the current health crisis. The world is facing a great challenge - a future climate crisis that scientists have warned about and which may cause fatal consequences for the economy and security of the population. The negative socio-economic effects of the health crisis in relation to the potential climate crisis and the global loss of biodiversity are immeasurable. First of all, we must be aware of the relationship between the impact of COVID-19 and the impending climate collapse. The chart below symbolically shows the relationship between these two challenges. In the worst-case scenario, COVID-19 is predicted to cost the world around $ 347 billion

(≈ 0.4% of a projected world GDP for 2020). This scenario envisages 6 months of blocked business. Climate change bringing about a 1.5°C increase in temperature is estimated at around $ 54 trillion (≈60% of the projected world GDP in 2020). Climate change can bring 150 times more damage than the new economic crisis. The circular economy could prevent this consequence if we understand it properly and if we start the transition immediately.

Therefore, in the recovery period up to 2030, countries should harmonise their public policies and investment frameworks with the needs of environmental protection and the fight against climate change, and encourage economic operators, through regulatory and economic instruments, to turn to sustainable investment, waste reduction, and to use inputs with maximum capacities in production processes through CE models, as well as to reduce CO_2 production and the use of non-renewable natural resources through energy efficiency.

Figure 2: Comparison of the predicted economic damage caused by COVID-19 and climate crisis



Source: Serbian Chamber of Commerce

Thus, it can be concluded that the level of pollution decreased in the industrial sectors during the global lockdown. The main goal in assessing the intensity and manner of carrying out further recovery activities should be to prevent the cli-

mate crisis and to harmonise the modes of production and economic and social activities with nature. Recovery packages should be based on sustainable production and pollution reduction, and on the need to align the interests of economies with the capacity of the Earth's natural resources. This means **aligning with the need to achieve the confirmed greenhouse gas emission reduction targets, climate resilience, preventing the loss of biodiversity and increasing the circularity of supply chain.** Leading markets (primarily the EU) advocate **a green recovery from the COVID-19 crisis,** where **economic market empowerment is recognised through sustainable production and consumption,** which includes the CE model and sustainable development initiatives. CE should be adopted as a philosophy of business and living both by companies and by decision makers and institutions that adopt the business principles of CE and facilitate the development of the "green economy", which is recognised today as a real opportunity to recover from the current health crisis. Public environmental policies and established government priorities for economic recovery, as well as internal business models and practices, will have a major impact on the recovery from the COVID-19 crisis. It is this health crisis that can greatly contribute to accelerating the fight to stop global warming at 2^0C[8] and solve the climate crisis.

The question arises of **how global governments will create economic recovery and what priorities they will set after the COVID-19 pandemic, as well as how the monitoring mechanisms for implementing the measures of recovery from the health crisis will be put in place.** It remains to be seen whether governments will have the capacity to direct recovery policies in accordance with the established European Green Deal and prevent a negative impact of the announced climate crisis through post-pandemic economic recovery measures including preventive measures and "green transition".

Global shocks such as pandemics, economic crises and environmental disasters are overcome by solidarity and coordinated international action based on scientific advice.

8 IPPC report https://www.ipcc.ch/sr15/download /, This goal has been confirmed by the Paris Agreement, as well as the 2030 Agenda for Sustainable Development, Goal 13

Chapter II

Impact of COVID-19 crisis on the EU economy

The European Commission in its Summer 2020 interim forecast estimates real GDP **retraction the EU for 2020 to reach -8.3%. GDP** growth for the Euro area is even lower at -8.7%.[9] In the Euro area, private consumption decreased by 4.7% in the first quarter, investment spending by 4.3% and government consumption by 0.4%. It is expected that the same figures will be much worse for the second quarter. The economic impact has been unevenly distributed across sectors, with trade, transport, accommodation and food services, arts, entertainment and other service activities experiencing the largest decline (at -6% quarter-on-quarter). Agriculture, forestry and fishing, financial and insurance activities experienced the mildest decline (at -0.8% q-o-q).

However, the impacts of the COVID-19 pandemic on the EU economy vary between member states due to the specific characteristics of different economies. For instance, economies which depend to a large extent on tourism-related services will experience stronger economic contractions and higher job losses. As a matter of fact, the group of countries with the largest estimated GDP contractions (10% and more) includes Italy, Spain, Croatia and France, all of them traditional tourism destinations in the EU. While their industrial sectors have been hit as well, the recovery of industry and manufacturing is expected to be quicker than the recovery of sectors reliant on person-to-person contact such as food services and accommodation, recreational activities, transport and tourism in general.

9 https://ec.europa.eu/info/sites/info/files/economy-finance/ip132_en.pdf

Table 1: Gross domestic product, volume (percentage change over prior year, 2001-2021)

	5-year averages							Summer 2020 - forecast		Spring 2020 - forecast	
	2001-2005.	2006-2010.	2011-2015.	2016.	2017.	2018.	2019.	**2020.**	**2021.**	2020.	2021.
Belgium	1,9	1,5	1,3	1,5	1,9	1,5	1,4	**-8,8**	**6,5**	-7,2	6,7
Germany	0,5	1,2	1,7	2,2	2,5	1,5	0,6	**-6,3**	**5,3**	-6,5	5,9
Estonia	7,3	-0,3	3,3	2,6	5,7	4,8	4,3	**-7,7**	**6,2**	-6,9	5,9
Ireland	5,3	0,4	6,7	3,7	8,1	8,2	5,5	**-8,5**	**6,3**	-7,9	6,1
Greece	3,9	-0,3	-4,0	-0,2	1,5	1,9	1,9	**-9,0**	**6,0**	-9,7	7,9
Spain	3,3	1,0	0,0	3,0	2,9	2,4	2,0	**-10,9**	**7,1**	-9,4	7,0
France	1,7	0,8	1,0	1,1	2,3	1,8	1,5	**-10,6**	**7,6**	-8,2	7,4
Italy	0,9	-0,3	-0,7	1,3	1,7	0,8	0,3	**-11,2**	**6,1**	-9,5	6,5
Cyprus	4,0	2,7	-1,7	6,7	4,4	4,1	3,2	**-7,7**	**5,3**	-7,4	6,1
Latvia	8,2	-0,5	3,6	1,8	3,8	4,3	2,2	**-7,0**	**6,4**	-7,0	6,4
Lithuania	7,6	1,1	3,8	2,6	4,2	3,6	3,9	**-7,1**	**6,7**	-7,9	7,4
Luxemburg	2,9	2,4	2,9	4,6	1,8	3,1	2,3	**-6,2**	**5,4**	-5,4	5,7
Malta	2,1	2,0	5,7	5,8	6,5	7,3	4,7	**-6,0**	**6,3**	-5,8	6,0
Netherlands	1,3	1,4	0,7	2,2	2,9	2,4	1,7	**-6,8**	**4,6**	-6,8	5,0
Austria	1,8	1,3	1,1	2,1	2,5	2,4	1,6	**-7,1**	**5,6**	-5,5	5,0
Portugal	0,9	0,6	-0,8	2,0	3,5	2,6	2,2	**-9,8**	**6,0**	-6,8	5,8
Slovenia	3,6	1,9	0,4	3,1	4,8	4,1	2,4	**-7,0**	**6,1**	-7,0	6,7
Slovakia	5,0	4,9	2,6	2,1	3,0	3,9	2,4	**-9,0**	**7,4**	-6,7	6,6

	5-year averages							Summer 2020 - forecast		Spring 2020 - forecast	
	2001-2005.	2006-2010.	2011-2015.	2016.	2017.	2018.	2019.	**2020.**	**2021.**	2020.	2021.
Finland	2,6	0,9	0,1	2,8	3,3	1,5	1,1	**-6,3**	**2,8**	-6,3	3,7
Euro area	1,5	0,8	0,8	1,9	2,5	1,9	1,3	**-8,7**	**6,1**	-7,7	6,3
Bulgaria	5,7	3,2	1,8	3,8	3,5	3,1	3,4	**-7,1**	**5,3**	-7,2	6,0
Czechia	3,9	2,4	1,7	2,5	4,4	2,8	2,6	**-7,8**	**4,5**	-6,2	5,0
Denmark	1,3	0,2	1,3	3,2	2,0	2,4	2,4	**-5,2**	**4,3**	-5,9	5,1
Croatia	4,5	0,5	-0,2	3,5	3,1	2,7	2,9	**-10,8**	**7,5**	-9,1	7,5
Hungary	4,4	-0,2	2.1	2,2	4,3	5,1	4,9	**-7,0**	**6.0**	-7,0	6,0
Poland	3,1	4,8	3.0	3,1	4,9	5,3	4,1	**-4,6**	**4,3**	-4,3	4,1
Romania	5,6	2,8	3,0	4,8	7,1	4,4	4,1	**-6,0**	**4,0**	-6,0	4,2
Sweden	2,6	1,8	2,2	2,1	2,6	2,0	1,2	**-5,3**	**3,1**	-6,1	4,3
EU	1,7	1,0	1,0	2,1	2,7	2,1	1,5	**-8,3**	**5,8**	-7,4	6,1
P.M.: United Kingdom	2,8	0,5	2,0	1,9	1,9	1,3	1,5	**-9,7**	**6,0**	-8,3	6,0

Source: European Commission (2020)

Those EU Member States with the least economic impact of the COVID-19 pandemic include Poland, Denmark and Sweden. In the case of Poland, this is mainly due to low exposure to severely affected sectors and a diversified economic structure. Denmark, on the other hand, is strong in the export of pharmaceuticals and agricultural products, both sectors which were among the least affected by the pandemic. In addition, the government eased the lockdown earlier than planned.

Sweden benefited from positive net exports as well as rather less restrictive containment measures.

A survey of SME united[10], the association of crafts and SMEs in Europe, revealed that more than 90% of SMEs in the EU experienced a decrease in turnover as a consequence of the pandemic and related containment measures. Up to 20% of SMEs lost the entirety of their turnover for several weeks. **Two thirds of SMEs reported delayed investment decisions or downsized investments.** Access to liquidity and risk of insolvency have been reported as the main problems. 40% of SMEs in the EU experience liquidity problems. This share increases to 50% in the most affected sectors, such as hospitality, retail and construction. However, there are also some positive examples, including SMEs offering digital solutions to stay connected and facilitate smart working arrangements (e.g., virtual conferencing, e-learning etc.), which have experienced revenue increases.

As regards circular economy related impacts, and in addition to the impacts outlined above (see global impacts), the **pandemic exposed the risks associated with traditional, elongated and linear supply chains**. Particularly the dependence on China as a low labour cost region with long distance transport requirements has proven costly due to supply chain disruptions caused by the pandemic and related containment measures[11]. Moving production closer to consumption does not only facilitate circularity but also reduces the threat of supply chain disruption. SMEs integrated into regional supply-chains (e.g., many German SMEs) have thus proven more resilient – except where they relied on EU regions hard hit by the pandemic (e.g., Northern Italy).

In addition, **the pandemic has also forced some sectors to become more circular, especially those providing medical equipment and supplies.** Local production sites have been refitted to produce medical equipment, decontaminate

10 https://smeunited.eu/admin/storage/smeunited/200630-covidsurvey-results.pdf

11 https://www.logistics2030.ie/index.php/circular-economy/52-logistics2030-news/circular-economy/664-covid-19-will-force-companies-to-re-think-linear-supply-chains

personal protective equipment to enable reuse, and refurbish ventilators in the absence of the availability of new ones[12].

Serbia

Before the COVID-19 pandemic, Serbian GDP grew at 4.4% in 2018 and 4.2% in 2019, mainly driven by Foreign Direct Investment (FDI) and domestic consumption. A similar growth rate was expected for 2020, however, the pandemic has caused projections to be revised downwards significantly. The declaration of a national state of emergency in March 2020 and the adoption of strict containment measures domestically and abroad have severely impacted the economy. As a result, **Serbia has entered an economic recession and its GDP is currently expected to decline by 4% in 2020**.[13] The economy is mainly exposed via exports, remittances, transport and tourism. However, due to a large-scale fiscal stimulus plan by the Serbian government, and a much lower reliance on tourism in Serbia, the recession is less pronounced than in other countries in the region.

12 https://www.interregeurope.eu/circpro/news/news-article/8662/covid-19-crisis-impact-on-circular-procurements/

13 https://wiiw.ac.at/uncertainty-in-turbulent-times-p-5237.html

Table 2: Real GDP forecasts and revisions for Eastern Europe

		Forecast, %			Revisions, pp	
		2019	2020	2021	2020	2021
EU-CEE11	BG	3.4	-6.3	1.7	-9.1	-0.6
	CZ	2.6	-4.8	2.5	-7.0	0.1
	EE	4.3	-7.0	4.0	-9.7	1.4
	HR	2.9	-11.0	4.0	-13.7	1.3
	HU	4.9	-5.5	2.0	-8.8	-0.6
	LT	3.9	-6.5	4.3	-9.3	1.7
	LV	2.2	-8.0	4.5	-10.0	2.2
	PL	4.1	-4.0	3.0	-7.6	-0.3
	RO	4.1	-7.0	3.0	-10.2	0.2
	SI	2.4	-9.5	4.0	-12.1	1.3
	SK	2.3	-9.0	4.6	-11.0	2.2
WB6	AL	2.2	-5.0	3.8	-8.2	0.4
	BA	2.6	-5.0	3.0	-7.5	0.2
	ME	3.6	-8.0	5.0	-10.8	2.1
	MK	3.6	-5.0	4.0	-8.3	0.7
	RS	4.2	-4.0	4.0	-7.7	0.5
	XK	4.2	-4.4	4.0	-8.7	-0.2
Turkey	TR	0.9	-6.0	5.5	-9.9	1.4
CIS4+UA	BY	1.2	-5.3	-0.7	-6.3	-2.0
	KZ	4.5	-3.0	2.0	-6.7	-1.8
	MD	3.6	-3.0	3.0	-7.0	-1.0
	RU	1.3	-7.0	1.5	-9.1	-0.8

Source: wiiw forecast (Spring 2020)[14]

The Serbian economy strongly relies on trade with and investment from the EU, particularly from Germany and Italy. Total exports, for example, reached almost EUR 1.5 billion in February 2020 but decreased by almost a third to about EUR 1 billion in April 2020.[15] Imports declined even stronger leading to shortages for Serbian industry. For example, **the Fiat Chrysler automotive manufacturing company, the country's largest exporter, already temporarily closed in February 2020 due to disruptions in the supply chain with China**.[16]

14 https://wiiw.ac.at/uncertainty-in-turbulent-times-p-5237.html

15 https://data.stat.gov.rs/Home/Result/1702?languageCode=en-US

16 https://europe.autonews.com/automakers/fiat-chrysler-restarts-production-serbia-plant

The contribution of personal remittances to Serbian GDP is significant and adds to the vulnerability of the economy. In 2019, remittances contributed more than 8.2% to Serbian GDP.[17] Reduced incomes of the Serbian workforce living abroad (around 10% of the population)[18] will cause remittances to decline in 2020, with significant impacts on GDP and domestic consumption in Serbia.

SMEs are severely affected by the pandemic. In fact, from a poll in March 2020, 85% of SMEs reported to have been negatively affected by the COVID-19 outbreak. In a survey of **April 2020, over 60% of SMEs had drastically reduced their productive capacities, while 91% of SMEs expected difficulties in covering liabilities**.[19] SMEs operating in the manufacturing, transport, logistics and tourism sectors are among the most affected.

The most recent SME Competitiveness Outlook 2020[20] provides an assessment of the effects of the coronavirus pandemic on small businesses. For Serbia, the report shows that international supply chain disruptions by COVID-19 are the largest in the *machinery and plastics & rubber sectors*, which are both dominated by linear business models. Total Serbian exports of industrial inputs within supply chains are expected to decrease by 3% or USD 559 million in 2020.

The single most relevant industrial product is wiring sets for vehicles (ignition) with expected export losses of some USD 125 million. Total Serbian imports of industrial inputs within supply chains are expected to decrease by 13% or USD 403 million in 2020. Losses are more evenly distributed over industrial products, led by parts for use with electric motors, generators and rotary converters (USD -10 million).

17 https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=RS

18 https://www.oecd.org/south-east-europe/COVID-19-Crisis-in-Serbia.pdf

19 https://www.oecd.org/south-east-europe/COVID-19-Crisis-in-Serbia.pdf

20 https://www.intracen.org/publication/smeco2020/

European financial instrument - New Generation

Coming out of the most acute health crisis, the European Union is turning towards mitigation of socio-economic damage. On 27 May 2020, the European Commission tabled a proposal for a recovery plan entitled "**Europe's moment: Repair and Prepare for the Next Generation"**[21]. With the aim to ensure a recovery that is sustainable, even, inclusive and fair for all EU member states, **the proposal includes a new EUR 750 billion recovery instrument,** Next Generation EU (NGEU), embedded in the long-term Multiannual Financial Framework (MFF) of the EU for 2021-2027.

Based on this proposal, the Heads of States and Governments at the European Council 17-21 July 2020 agreed on a comprehensive package combining the classical MFF with the extraordinary recovery effort.

For the implementation of the NGEU, the Commission is empowered to **borrow funds** on the capital markets up to the **full amount of EUR 750 billion** (in 2018 prices). These funds can be used for loans up to EUR 360 billion and for expenditure (i.e. grants) up to EUR 390 billion. The Commission must stop all borrowing activities at the end of 2026 and all liabilities must cease to exist by the end of 2058. The amounts under NGEU for individual programmes have been agreed as shown in the following table.

21 European Commission (2020), Europe's moment: Repair and Prepare for the Next Generation, COM(2020) 456 final, 27 May 2020, Brussels

Table 3: Individual programmes under NGEU (in billion Euros)

Recovery and Resilience Facility (RRF)	**672,5**
- of which loans	360
- of which grants	312,5
ReactEU	47,5
Horizont Evropa	5
InvestEU	5,6
Rural Development	7,5
Just Transition Fund (JTF)	10
RescEU	1,9
Total	**750**

Source: European Commission (2020)

SMEs will directly or indirectly benefit from all of the NGEU-related funding sources. React-EU, for example, will provide liquidity and solvency support to SMEs. **Invest EU Fund will support four main policy areas, including SMEs.**

The Just Transition Fund will **support SMEs to create new economic opportunities and to invest in the clean energy transition.** And the Recovery and Resilience Facility (RFF), which is the centrepiece of NGEU, will offer large-scale financial support for both public investments and reforms which will be essential for a sustainable recovery – also of SMEs. **Several components of the agreement promote the transition to a circular economy.**

First, at least 30% of the total amount of MFF and **NGEU expenditures must support climate objectives.** Given the overall amount of commitments under the MFF of EUR 1,074.3 billion and another EUR 750 billion under the NGEU,

this 30% target amounts to EUR 547.3 billion of new EU funding available for green transition, the majority of which will be spent on agriculture, cohesion and research. This amount accounts for roughly a quarter of the investments required to reach a 50-55% GHG emissions reduction target for 2030 (estimated at EUR 300 billion per year)[22]. Due to the fact that the Commission's methodology for tracking climate-spending has been criticised for a tendency to overstate climate-spending[23], the European Council called for an effective methodology for monitoring climate-spending and its performance. In addition, all EU expenditure should be consistent with the "do no harm" principle of the European Green Deal, which requires that all projects financed by the EU must meet certain green criteria.

Second, the agreement foresees a reform of the EU's own resources system and the introduction of new own resources. A new own resource based on national contributions proportional to the **quantity of plastic packaging waste that is not recycled** (at a rate of EUR 0.80 per kilogram) **will be introduced and will apply as of 1 January 2021**. This will increase incentives to reduce the consumption of single-use plastics, increase recycling rates across EU member states, and to boost the circular economy. Additional own resources have been proposed in the form of a carbon border adjustment mechanism, a revised EU Emissions Trading System (ETS), a digital levy and a financial transaction tax. Environmental taxes and levies will thus constitute an integral part of future own resources supporting the transition to a green and more circular economy.

Third and most importantly, **NGEU recognises the European Green Deal as the EU's growth strategy and as a central element of the economic recovery efforts.**

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22 https://www.bruegel.org/2020/07/is-the-eu-council-agreement-aligned-with-the-green-deal-ambitions/

23 https://www.eca.europa.eu/Lists/ECADocuments/INRW20_01/INRW_Tracking_climate_spending_EN.pdf

In the context of the COVID-19 recovery, the Commission[24] stresses the importance of construction, renovation and sustainable infrastructure aimed at saving money on energy bills, providing healthier living conditions and reducing energy poverty. Another priority is on unlocking investment in clean technologies and value chains, focusing on the energy transition in general and renewable and energy storage technologies in particular. There will also be a focus on transport, with the aim to accelerate the production and deployment of sustainable vehicles and vessels as well as alternative fuels.

The transition to a circular economy is the centrepiece of both the European Green Deal and NGEU. Under the Green Deal, the European Commission proposed a **new European Industrial Strategy**,[25] which was adopted on 10 March 2020.

The strategy focusses on three drivers, which will transform European industry, support SMEs, and foster European sustainability and competitiveness: **the green transition, the digital transition, and global competitiveness.** Climate neutrality and circular economy are two of the fundamental factors to implement the transition of industry.

Finally, and in addition to the economic response measure outlined above, the EU also provides specific support targeted at the **Western Balkan region**. The EU, together with the EIB, mobilized over **EUR 3.3 billion to support the Western Balkans in tackling the coronavirus health crisis and post-pandemic economic recovery**.[26] The EUR 3.3 billion consist of EUR 389 million reallocated from the Instrument for Pre-Accession (IPA), EUR 750 million of Macro-Financial Assistance, EUR 455 million to ensure survival in the short-term, and recovery in the medium-term of businesses in the private sector, and a EUR 1.7 billion package

24 European Commission (2020), Europe's moment: Repair and Prepare for the Next Generation, COM(2020) 456 final, 27 May 2020, Brussels

25 https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en

26 https://ec.europa.eu/info/sites/info/files/communication-support-western-balkan-regions-covid19-recovery_en.pdf

of assistance from the European Investment Bank. Focusing on SMEs, start-ups and innovative companies, this **EU assistance will in particular be available for innovative businesses, farmers and agri-businesses, rural and tourism enterprises, as well as women- and youth-led businesses**.[27] The total envelope of the Pre-Accession Instrument III has been fixed at EUR 12.565 billion for the years 2021-2027, the largest share of which will benefit the Western Balkans region. The Commission also foresees substantial increases in grants and financial guarantees through the Western Balkans Investment Framework.

France

On 14 July 2020, the French President announced a new recovery package worth EUR 100 billion.[28] While details were due to be published on 24 August 2020, the package will promote an ecological transition based on decarbonization, energy efficiency and green innovations. Priority sectors will include energy renovation, including the renovation of private buildings, transport and energy. Up to EUR 30 billion could be dedicated to the ecological transition.

This new package will add to the existing fiscal envelope of EUR 110 billion, as well as a package of bank loan guarantees and credit reinsurance schemes of EUR 315 billion.[29] Addressing the immediate concerns of SMEs, key fiscal support measures include liquidity support for companies, support for wages of workers, direct financial support for microenterprises etc. Although a gradual phase-out of support measures started in June, this does not apply to industries that still face opening restrictions (e.g. tourism). Additional support measures have been announced for the hardest-hit sectors, including incentives to purchase greener vehicles and green investment support for the auto and aerospace sectors.

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27 https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/coronavirus_support_wb_april_2020.pdf

28 https://www.brusselstimes.com/all-news/123479/france-ministers-want-30-billion-euros-for-ecological-transition/

29 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#F

Germany

The German federal government adopted two economic support and recovery packages. An initial support package of EUR 156 billion adopted in March 2020 included EUR 50 billion in grants to SMEs and the self-employed in addition to interest-free tax deferrals until the end of the year and EUR 2 billion of venture capital for start-ups. The second stimulus package of EUR 130 billion adopted in June 2020 includes grants for hard-hit SMEs as well as subsidies and investment in green technologies and digitalization.

The Renewable Energy Act levy (EEG-Umlage) is expected to rise in the coming years in the face of decreasing electricity prices. The German government will spend some EUR 11 billion until 2022 to combat resulting increases in the above-mentioned levy, thus contributing to competitive electricity prices in Germany.

In addition, the second stimulus package includes some EUR 50 billion for a "future package" (Zukunftspacket) focusing mainly on climate technologies and the health sector.[30] In terms of climate technologies, the package will support research and development, mobility, a national hydrogen strategy, renewable energy sources (solar PV and wind), energy efficient renovation of buildings, smart cities, and several other measures aimed at supporting the digitalization of the German economy.

A major part of climate related investments will be spent on mobility and the hydrogen strategy. In terms of mobility, the package foresees a closer alignment of the motor vehicle tax with CO2 emissions, an innovation premium for electric vehicles; support for investments in clean technologies by automobile manufacturers and supply industry; a fleet exchange programme for social services, craftsmen and SMEs aimed at supporting electric vehicles; additional investments in electric vehicle charging infrastructure and batteries; increasing the public share

30 https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Konjunkturpa ket/2020-06-03-eckpunktepapier.html

in the federal railways; modernization of bus, lorry and aircraft fleets; as well as support for clean shipping.

The hydrogen strategy is mainly aimed at demonstrating technology for industrial use, including for the production of "green steel", in heavy-duty traffic and in aviation. In addition to the two recovery packages, the German government is increasing volume and access to public guarantees for firms of different sizes, credit insurers and non-profit institutions, increasing the total volume by at least EUR 757 billion.

Finally, local governments and municipalities are implementing their own recovery measures, amounting to EUR 141 billion in direct support and EUR 63 billion in loan guarantees.[31]

Italy

The Italian government has adopted four economic support and recovery packages since March 2020.[32] The first package was adopted on 17 March 2020 ("Cura Italia") and provides EUR 25 billion, inter alia for the support of businesses in the form of tax deferrals and the postponement of utility bills. Another bill in April ("Liquidity Decree") provided for an increase in state guarantees of up to EUR 400 billion of liquidity for businesses and households. The third bill, adopted in May 2020 ("Relaunch Decree") provided EUR 55 billion, amongst others in the form of grants for SMEs and tax deferrals. Finally, on 22 July, the government agreed on a EUR 25 billion package aimed at extending income support for families.

A comprehensive and strategic recovery plan will be unveiled by the Italian government, with a focus on **digitalisation, greener energy and a more inclusive society**. However, given the difficult fiscal position of the country, funding for the recovery plan will largely come from NGEU (see above) thus supporting the transition to a greener economy as foreseen in the EU budget.

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31 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#G

32 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#I

Comparative Economics Analysis of the main policy measures for the key affected sectors

The green transition is a particular component of most major economic recovery plans in the European Union and its member states. Several measures aim at reducing energy consumption, supporting renewable energy sources and decreasing GHG emissions. The circular economy is less explicitly mentioned in national recovery plans, but is one of the centrepieces of the European recovery. However, given that some of the national recovery plans are not yet fully formulated (or adopted), it remains to be seen as to what extent green and circular recovery will play a significant role in the mid to long-term.

In addition, the EU recovery plan, which needs to be seen in the context of the entire **EU budget for 2021-2027, requires certain environmental criteria to be fulfilled (i.e. 30% of expenditures need to be climate-related; all spending needs to comply with the "do no harm" principle)**. It thus follows that countries benefiting from the NGEU will be required to embark on a green recovery whether this is foreseen in national plans or not. It could thus also be argued that it is even more important for circular economy principles to be established in the recovery plans of those countries that are less dependent on the NGEU for their economic recovery.

A direct comparison between the recovery plans reveals that the "green" elements of the plans focus particularly on buildings, mobility and renewable energy sources. A renovation wave of buildings and critical infrastructure has been proposed both by the European Commission and the German government. It has also been mentioned as a potential element of the upcoming recovery plan of France. The benefits of renovating buildings are manifold, including higher energy efficiency, reduced energy consumption and related costs, reduced energy poverty, lower greenhouse gas emissions, and the protection of jobs as renovation work is relatively labour intensive. The European Commission, for example, proposes at least a doubling of the annual renovation rate of existing stock. In Germany, pro-

posed renovation efforts target residential buildings, municipal buildings, as well as social institutions.

In terms of mobility, recovery plans emphasize the importance of accelerating the production and deployment of sustainable vehicles and vessels as well as alternative fuels. These are important elements in both the European and German recovery plans, and potentially also of the French plan. The German plan, for example, foresees an "environmental premium" for the purchase of electric vehicles and substantially increases investments in charging infrastructure. Support towards greening the automobile industry is regarded as essential not only to reduce CO2 emissions in transport, but also because the automotive supply chain includes some 300,000 EU companies of all sizes, representing 12.5% of EU manufacturing output and employing some 13.8 million people.

All (EU, DE, FR, IT) recovery plans support the transition to low-carbon and renewable energy sources. Germany, for example, focusses explicitly on solar PV and wind power. Both the EU and Germany will also invest in accelerating research and scaling up clean hydrogen production. Sustainable hydrogen has been identified as a critical element of the transition to a low-carbon economy, allowing for the decarbonization of energy use in sectors where greenhouse gas emissions are hard to abate, e.g. chemical and steel industry and heavy transport.

The EU recovery plan is the most comprehensive response to the COVID-19 crisis in comparison to other plans. It is also the one with the largest budget, thus naturally covering more sectors. Food and agriculture, for example, do not play a major role in the German recovery plan, but feature prominently in the NGEU. The EU aims to accelerate the transition to a sustainable and more resilient food chain in line with the "Farm to Fork Strategy"[33] tabled by the European Commission in May 2020. Particular emphasis of NGEU in this context is on digitalizing agriculture and rural areas, investing in a bioeconomy and carbon sinks,

33 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0381

and supporting farming as a source of renewable energy (e.g. biogas, biomethane, biofuels).

As mentioned above, NGEU is most explicit about strengthening the foundations of the circular economy in Europe by modernizing the waste management sector as part of the EU recovery plan. It has been recognized that the COVID-19 pandemic and related containment measures have threatened the proper functioning of separate waste collection, sorting and recycling, as well as the production of high quality secondary raw materials (e.g. in the packaging and plastics sector). The European Commission has thus proposed to inject fresh investments to the waste management sector, and in particular to collection, sorting and recycling technologies and infrastructure. In addition, the EU intends to support digitalization along the whole waste treatment chain with positive impacts on quality and efficiency as well as on the traceability of materials.

Finally, the EU will introduce a tax on non-recycled plastics packaging waste at a rate of EUR 0.80 per kilogram on 1 January 2021. This will directly impact the packaging and plastics sector by setting economic incentives to reduce the consumption of single-use plastics, increase recycling rates across EU member states, and to boost the circular economy.

EU economic consensus actions applicable to the Serbian economy

Given that the Circular Economy Action Plan (CEAP) of the European Commission constitutes an integral part of the European Green Deal, all measures proposed therein will also need to be considered as economic consensus actions for the transition to a circular economy in Serbia. With this plan, the European Commission aims to establish an improved product policy framework across the EU (with focus on key product value chains) that will make sustainable products, services and business models the norm. The plan also includes measure to reduce waste and to support a functioning market for secondary raw materials.[34]

34 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

In the long-term, the economic consensus actions applicable to the Serbian economy will be determined by the Green Agenda for the Western Balkans. In the short to medium-term, the EU has already announced a financial support package worth more than EUR 3.3 billion for the whole region, of which Serbia will receive EUR 186.8 million. Specifically, **Serbia will benefit from EUR 15 million to deal with the health crisis, EUR 78.4 million in assistance funds for social and economic recovery, and EUR 93.4 million in the form of an economic reactivation package to support business and public sector investment.**[35] According to the European Commission, the green transition and the digital transformation will play a central role in relaunching and modernizing the economies of the Western Balkans.[36]

Clean technologies, digital technologies and the circular economy are in the vanguard of EU support and will thus also need to be prioritised by Serbian authorities. Environmental legislation and the circular economy will remain among the main pillars of the instrument.

Further economic consensus actions will be set by IPA III, which has been allocated with a total budget of EUR 12.565 billion for the period 2021-2027, the bulk of which is destined for the Western Balkans. In fact, IPA III is meant to contribute to the implementation not only of the EU's external policy but also of the European Green Deal.[37] Hence an overlap of priorities can be expected.

The OECD on best-practices for the design of post-crisis recovery programmes, can help Serbian government to set up the priorities for recovery.[38] The OECD provides concrete recommendations on how stimulus packages can be designed to orient investment towards sectors and technologies that can accelerate the tran-

35 https://www.consilium.europa.eu/en/infographics/economic-support-to-western-balkans/

36 https://ec.europa.eu/info/sites/info/files/communication-support-western-balkan-regions-covid19-recovery_en.pdf

37 https://ec.europa.eu/environment/circular-economy/pdf/leading_way_global_circular_economy.pdf

38 http://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-low-carbon-transition-impacts-and-possible-policy-responses-749738fc/

sition to a low-carbon and circular economy, while improving resilience to future shocks from climate change. In particular the OECD urges governments to avoid weakening environmental policies, reducing government support for innovation and locking-in linear economic activities.

Recommendation for future steps:

Governments should prepare a pipeline of low-carbon projects for the recovery phase, invest in low-carbon infrastructure, and ensure incentives for low-carbon consumption, investment, and innovation during the recovery. They should also support firms with liquidity problems across sectors, including renewable energy and other low-carbon technology sectors, and consider direct support to firms contingent on environmental improvements.

Chapter III

Regulatory impact of new EU policies on recovery from the COVID-19 crisis

Representatives of the European Commission **have set economic recovery from the COVID-19 crisis through green recovery and sustainable production as a priority in their further work, which will contribute to the fight against climate change in parallel with recovery from the economic recession.**[39]

The European Green Deal is the basic document of the EU's policy of changes that contribute to a sustainable economy. It was adopted in December 2019. The document **aims** to encourage industries to use resources efficiently by shifting to clean technologies, CE business models, halting climate change, restoring biodiversity loss and reducing pollution. The Green Deal covers all industrial sectors, in particular: transport, energy, agriculture, construction, steel, cement, textile and chemicals and the information and communication technology industry.

The table below shows the key EU strategic documents that contribute to the implementation of the identified priorities for achieving the goals set in the European Green Deal. The EC will analyse the alignment of existing policies and regulatory instruments for a full transition towards sustainable business. Priority will be given to amending the directives related to *eco-label, product design, green public procurement*, and to creating new regulations that will complement the regulations related to the optimisation of interaction between products or groups of products.

39 Europe's moment: Repair and Prepare for the Next Generation: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0456&from=EN

As regards the methodological aspect, various elements will be organised to supplement the synchronised process (for various actors, primarily for producers and consumers) of harmonising the policies aimed at increasing sustainable production and circularity. The motives for this synchronisation are reflected in the encouragement of manufacturers to move to sustainable business models, and to find their interest in such transition on their own initiative; the best way is to educate consumers. Priority in creating this framework will be given to key products/product groups in value chains by sector, the establishment of (digital) instruments for facilitating a single market for secondary raw materials and consumer waste reduction.

Table 4: New European policies and related regulations for the implementation of sustainable production

Date of adoption	Document
19/12/2019	Green Deal
14/01/2020	Green Deal Investment Plan
19/02/2020	A European strategy for data[40]
10/03/2020	European Industrial Strategy
11/03/2020	Circular Economy Action Plan
20/05/2020	Farm to Fork Strategy (sustainable food strategy)
20/05/2020	EU Biodiversity Strategy
18/06/2020	Amendments to the Regulation on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088
08/07/2020	EU Strategies on Energy System Integration and Hydrogen
27/07/2020	EU Working Document: green public procurement criteria for imaging equipment, consumables and print services

40 https://ec.europa.eu/info/sites/info/files/communication-european-strategy-data-19feb2020_en.pdf

The present report will further analyse the most important European planning documents that will create a policy of green recovery in the next decade, and which will have a major impact on changing the investment framework and public policies in the Republic of Serbia.

3.1. Green Deal

The European Union has included in its priorities the recovery from economic recession and the health crisis consequences through a green sustainable approach in accordance with the Green Deal adopted in December 2019. In addition, the Green Deal is a basic implementation document for the 2030 Agenda for Sustainable Development Goals. By adopting this document, the EU has established a direction towards sustainable business and sustainable economy development not only for its Member States but for the whole of Europe. The main goal of this strategic document is for Europe to become a continent with a modern, resource-independent and competitive economy without excessive depletion of natural resources. It will not be possible to achieve these ambitious goals from the Green Deal within the set deadline, if they are not embedded in sectoral regulations through sectoral policies and if they are not implemented coherently. This fundamental policy change requires a continuous dialogue between decision makers and industry to **align sectoral strategic documents and policies** with the envisaged Green Deal goal and reduced pressure on the environment.

Figure 3: Green Deal elements

Source: EU Green Deal

The EU has planned to fully harmonise public policies, action plans and financial support by 2025 to achieve the goal set in the European Green Deal, according to which Europe would become the first climate-neutral continent in the world by 2050. This means that **in the period from 2025 to 2050, industrial sectors and value chains will be aligned with the basic global goal of fighting climate change.** In this process, in which the **next decade is crucial,** everyone is equally responsible in contributing to the fight for sustainable production and a change of industrial policy from linear (take-make-dispose) to circular. This industrial shift requires producers of all sectors to increase the use of recycled materials in their production processes by applying clean green technology, to reduce waste generation and take care of energy use. In this transition process, consumers will have the opportunity to obtain information about the product and its impact on the environment (environmental passport), as well as information on the materials from which it is made, and where to dispose of/return the product (according to extended producer responsibility schemes) after the expiration of its life cycle.

The Member States' institutional capacity for regulatory reform will play a significant role in implementing the regulatory reform of post-COVID-19 recovery and in their ability to mobilise the available economic instruments for recovery. The important factors for industry are predictability and time frame for the implementation of regulatory reforms because they will require significant investment funds for the transition to new production processes and models, but operating costs are expected to decrease due to the change in production methodology.

3.2. Europe's moment: Repair and Prepare for the Next Generation

The European recovery plan *Europe's moment: Repair and Prepare for the Next Generation*[41] is an **investment plan for recovery** from the health crisis, which introduces **investments in green jobs and digitalisation** focusing on public health and environmental protection. The total budget of EUR 1.85 billion should help to kick start the European economy and ensure its progress through the creation of more green jobs. According to the calculations from the mentioned report, the GDP dropped by15% compared to the same period in 2019, and it is expected that the economic decline in the EU will be 7% without new lockdowns; however, if new lockdowns occur, a drastic 15% can be expected. The unemployment rate is expected to rise to 9%, where low-skilled workers and young people will be most affected.[42]

The recovery budget will focus on three pillars:

- *The first pillar consists of **investment in reforms** and recovery from the COVID-19 crisis and the recovery of the most vulnerable sectors, i.e. assistance for employees;*
- *The second pillar will be the **encouragement of private investment**;*
- *The third pillar will be the **strengthening of the health system** and health crisis prevention programmes.*

41 COM (2020) 456 final

42 Ibidem p. 3

3.3. Circular Economy Action Plan

The Circular Economy Action Plan[43] (CEAP) is an agenda of interrelated regulatory activities and measures related to circular products and services. It is proposed to develop a framework policy for sustainable products, which will include extended provisions of the Ecodesign Directive concerning energy efficiency and energy products and a change in the pattern of consumption in terms of sustainability. Thus, various measures will be implemented such as servicing, remanufacturing, extended product warranty, all to create extended producer responsibility and extend the life cycle of the product.

The Action Plan focuses on:

I. Sustainable product policy framework, which is based on:

- **Designing sustainable products**

The **scope of the Ecodesign Directive** will be extended through a legal initiative for sustainable products. The ecodesign framework will contain all the principles of the circular economy and application of its business models and aspects of circularity. The aspect of circularity refers to product improvements through durability (life cycle), reusability, upgradability and reparability, use of recycled content in products, enabling remanufacturing, reducing carbon and environmental footprints, restricting single-use, introducing a ban on the destruction of unsold durable goods (food), incentivising product-as-a-service where producers keep the ownership of the product (sharing economy). The circularity of products will apply also to products from the energy sector.

- **Empowering consumers and public buyers**

Consumers have a key role to play in creating sustainable product policies, as they have the power to decide what type of product to buy. In this context, sav-

43 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

ings and the right to repair encourage the active involvement of consumers in the process of circular economy. It is up to the consumer to decide which and what type of product he or she will buy/use. Producers will be obliged to provide, on labels, detailed and complete information about the product, repair services, repairs manuals, product lifespan, and in the case of ICT the information on product upgrades. The circular product label should be accessible to consumers, comparable, transferable and verifiable.

Public authority purchasing power, expressed through public procurement, represents 14% of EU GDP. The public sector has a large share in consumption through investments, and it is the best driver of demand for sustainable products. The European Commission and a number of European countries have developed guidelines in this area, in the form of national public procurement criteria. In July 2020, the EC adopted additional green public procurement criteria related to image processing equipment, consumables and print services. They cover common routes for the procurement of image processing products and services, including equipment and consumables such as cartridges.

Green public procurement criteria take into account the costs incurred at all stages of the life cycle of a product or service, including the purchase price, product operating cost, product repair cost and finally the costs of permanent disposal of the product when it "becomes waste". It is this analytical approach to green public procurement by contracting authorities that can greatly contribute to improving the system in accordance with the criteria of product circularity and life cycle extension.

Although green public procurement is considered a voluntary instrument, following the adoption of policies and targets set for 2030 and 2050, it can be concluded that this administrative instrument will become a good practice example, establishing itself as one of the key pre-conditions for conducting public procurement for products and services.

- **Circularity in production processes**

Circularity in the production process is a key part of transition to sustainable production. The industry achieves savings, extra profit and new and strategic business opportunities through production processes and value chains. It is through the circularity of production in industrial processes that the long-term goal of climate neutrality and increased competitiveness of companies in the EU will be achieved. Through the new sustainability policy, digital tools will be developed to reach and optimise product potentials. The European Commission (EC) has identified courses of action to increase industrial circularity through:

1. Provisions of Industrial Emissions Directive including the integration of circular economy practices in the upcoming Best Available Techniques reference documents;
2. Industrial symbiosis implementation and industry-led system of certification and reporting on the circularity level of production processes to be submitted to the European Commission;
3. Promoting the use of digital technologies for tracking and tracing of resources in industrial processes and after their use;
4. Promoting bio-economy and bio-based sector;
5. Promoting the uptake of green technologies through a system of solid verification by registering the EU Environmental Technology Verification scheme as an EU certification mark.

II. Key product value chains

In dialogue with stakeholders (industry), the EC will identify obstacles to expanding the use of circular products in the market. The problem could be partly solved by applying a unique circularity method on products and environmental protection. Circular product labels should contain accessible, comparable, transferable and verifiable information. This would allow producers to green their supply

chains and open up new opportunities for product reuse and recycling. Consumers would gain better insight into products since the transparency of labels would be increased, and it would facilitate informed decision-making.

New public policies based on the CEAP and new sustainable production policy can contribute to higher product utilisation, waste reduction and optimisation of resource use.

In parallel with the sustainable product policy and the value chain, the EC is working on the ***Communication on the New Deal for Consumers***[44], which is an additional motivation for producers to harmonise their policies with the new sustainable business.[45] This document will prescribe the minimum requirements for producers in terms of mandatory information for products placed on the market.

III. Less waste, more value

Despite the amended and improved European waste management policy in 2015, there are still challenges in the implementation of regulations in the waste management sector in EU countries. Special attention must be paid to the waste management sector and allow each individual to contribute to its disposal. According to EU statistics, every citizen in the EU produces an average of approximately 500 kg of municipal waste per year.[46] The sustainable production policy, via sectoral regulatory instruments (especially after the revision of regulations in the waste sector concerning specific waste streams: batteries, packaging, end-of-life vehicles and hazardous chemicals in electronic equipment) **focuses on waste prevention as a central issue**, by introducing cleaner waste streams with high quality recycling and development of a single digital market for secondary raw materials. The global battle against plastic pollution should certainly be taken into account to find new packaging models and reduce the use of plastics in production processes.

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44 COM (2018) 183

45 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/1740-Towards-an-EU-Product-Policy-Framework-contributing-to-the-Circular-Economy

46 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0102&from=EN

IV. Monitoring procedure

In order to make the CEAP applicable and accelerate green transition, the public sector must take firm measures in establishing funding in line with a pattern of sustainable production and consumption. Therefore, the EC linked the CEAP and the Taxonomy Regulation[47], which refers to financial support for projects focusing on circular economy incentives, capacity building for financial risk management of small and medium enterprises (SMEs) that encourage their financing by private companies.[48] This will be achieved by encouraging companies to improve the system of presenting environmental data through **reporting models**. Reports should include financial data on the performance of companies in a circular economy, data on the development of corporate governance strategies, the alignment of circular economy goals with the guidelines for state aid in the field of environment and energy. The application of **economic instruments that include** environmental taxation, including landfill and incineration taxes will be encouraged, and Member States will be enabled to use value added tax (VAT) rates and incentives to promote CE activities that target final consumers, notably repair services.[49]

The document provides guidelines for sectoral transitions on the basis of which each Member State can regulate its own models of implementing the action plan within the main focus on circular products through high utilisation of existing resources and prevention of waste production.

IV. The European Industrial Strategy

A new industrial strategy has been developed for the period until 2030 and beyond. The document is in line with the Green Deal as the starting point for a new EU policy.

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47 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN

48 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf , str.20

49 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

The key goals of the European Industrial Strategy[50] are **green and digital transition**, and the **EU's strategic autonomy** in numerous production fields. This ambitious goal faces different economic potentials for green and digital transition within the European economy (in Member States and the Balkan region), which will be particularly difficult to achieve and investment-intensive, given that waste management culture and methods and industrial potentials vary from country to country. The green and digital transitions will be achieved in parallel through mutual competitive advantages that enhance business opportunities. The industrial strategy focuses on industrial symbiosis, which encompasses **all actors in the value chain.** It focuses also on **industrial alliances (industrial angels)** that will help **finance large projects** with positive spillover effects across Europe, using the knowledge of SMEs, large companies, researchers and the region to remove barriers to innovation and improve policy coherence.

How CE helps the economy

The drive to maximize profit has led to an imbalance among societies. Some are richer, others are poorer. In a linear economy, economic growth is closely linked to the growth of the use of natural resources, energy, water and the generation of large amounts of waste. The established way of production is based on environmental degradation. Consumer prices fluctuate due to the instability in the price of raw materials on the world market. The UN International Resource Panel predicts that the use of material resources could double between 2015 and 2050[51], with an expected global population growth of around 500-750 million per decade. Due to the limited amount of natural resources, national economic stability is conditioned by resource independence. If the linear economy continues, natural resources will not be sufficient for meeting the needs of consumption and use. Today, when the world is facing a lack of natural resources, the linear economy

50 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0102&from=EN

51 file:///C:/Users/usuario/Downloads/assessing_global_resource_use_amended_130318_0.pdf

can lead to an even bigger gap between countries, dividing them into resource-rich (short-term) and resource-dependent, i.e. poor.

The circular economy requires a change in the industrial business philosophy by **basing production on the savings** of energy, water and raw materials using creativity and knowledge of circular production. In addition, the circular economy supports mutually interactive cooperation between companies at the local level, because it also contributes to savings. Research shows that changing energy sources (from fossil to renewable) in the production process results in about a 55% reduction in the impact of CO_2 emissions in that production processes. The 45% remaining after the production processes can be reduced through various applications of circular economy business models.[52]

The new economic doctrine advocates the **abandoning of fossil fuels**, and possibly initially subsidising cleaner technologies that will generate renewable energy. Clean technologies have moved from a high-risk category to a high-reward category and savings in mass production, while investments in fossil fuels and natural resource-based production bear an increasing risk.

The CE creates "more independent" societies and economies and supports a more appropriate allocation of natural resources through their management in closed supply loops. The CE concept implies the use of resources that are close to us and easily accessible. This type of economy requires the industry's focus on innovation and knowledge, and intensive connection and cooperation between academia and industry.

Tax policy may contribute to the promotion of the application of the CE concept. The models of tax policy and tax relief for companies operating under the new CE models are already being developed in the EU. Tax exemptions are based on tax relief for those who do not contribute to pollution during production. VAT can

52 https://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-_Tackles_Climate_Change_V3_26_September.pdf

be reduced for users of secondary raw materials. Income tax can also be reduced through increased taxes for the use of natural resources (energy and water).

The public sector has a large share in consumption through investments, and it is the best driver of demand for sustainable products through investments and public procurement. The European Commission and a number of European countries have developed guidelines in this area, in the form of national public procurement criteria.

In the aftermath of the COVID-19 pandemic, consumers will be sceptical about buying products with a short lifespan and products that require higher maintenance costs. Also, during the recovery period, consumers are expected to be less and less supportive of the brands and products that are not sustainable and that contribute to potential pollution and adversely affect the health of the population. On the other hand, CE business models and principles imply integral environmental protection, and shift the responsibility to producers through consumer demands. CE business models will be designed so that the end product serves its purpose through use, without necessary ownership. For example, one of the CE business models changes the way of using products, so that producers remain owners and sell services instead of products, thus retaining ownership of products and resources used for their production. In this way, consumers are relieved of additional operating costs derived from product ownership, such as maintenance, repair, service or end-of-life disposal. In the new CE business model, producers organise everything for them. The best-known example of such a business model are printer producers. Today they can offer companies printing services and perform all repair services instead of consumers. Other examples are Share Now[53], Google Study[54] and Google Cloud[55] - all these companies base their business policies on the sharing economy.

53 https://www.share-now.com/

54 The most commonly used education platform: https://scholar.google.com/

55 Virtual platform for storage of data, photos, data transfer, etc.

When businesses become acquainted with the circular business model in their industry, it will facilitate and greatly accelerate the tracking of materials and components, which will be one of the important links in industrial production value chains. Digital technologies will play an important role in this process of tracking and movement of inputs.

The CE in agriculture and food production reaps the benefits of the so-called *regenerative* agriculture instead of industrial one, where nature is "fed" by nature, while land and farmers become less dependent on foreign inputs - pesticides and herbicides. It is known that already 60% of the soil is destroyed by leaching or acidification. New business models introduce **new ways of improving agricultural machinery**, and new micro solutions such as vertical gardens, digital shepherds, automatic irrigation and soil-regenerating permaculture.

It can be concluded that the transition to the circular economy model will have two phases. The first phase involves **subsidies and rewards for businesses** through tax relief to initiate the transition actively and decisively. The second phase excludes subsidies and focuses directly on the investment requirement, making the independent financial investment in the modernisation of production a condition for survival in the market.

The EU does not plan to deviate from its green path and green investments, and provides equal opportunities for all national economies to gradually change and modernise technological processes.

Public policies in the Republic of Serbia and plans of recovery from the COVID-19 health crisis through sustainable business

The process of green transition and recovery should be conducted by decision makers and economic operators in the Republic of Serbia in a coordinated manner. The main drivers of change are small and medium-sized enterprises (SMEs),

however, the executive authorities play an equally important role as they need to ensure the predictability of investment planning through public policies and economic instruments. Given the new global economic changes and the health crisis, **it is advisable to carry out a systemic and coherent revision of public policies and plans for economically sustainable development (recovery) of the Republic of Serbia.** In this regard, the development policy of the Republic of Serbia should be intensified in the direction of sustainable production and the transition to the concept of digitalisation and circular economy.

After drafting A Road Map for Circular Economy in Serbia,[56] the Republic of Serbia entered the list of countries (the first from the Western Balkan region and an EU candidate country) that drafted a strategic document with guidelines for the transition to sustainable production based on CE business models. Following the example of other European countries, the document identifies key drivers of change, priority sectors and initial steps towards transition. In addition to the Roadmap, the Ex-ante Impact Assessment Report for the area of circular economy[57] was prepared, as a mandatory preliminary step for the development of the Circular Economy Programme ("Programme"). This document was planned to be drafted in 2020, however, due to the introduction of the state of emergency and the Serbian Government reshuffle, the Programme will be drafted in the coming period. In addition, the Analysis of Local Self-government Capacity for Creating Conditions for Transition to Circular Economy[58] was also prepared. The CE is recognised explicitly also in the new Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030. Common to all these analyses and public policies is being at their infancy in terms of implementing the idea of sustainable business and circular economy models in the Republic of Serbia.

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56 https://www.ekologija.gov.rs/wp-content/uploads/razno/2020/FINAL_202004020_roadmap%20SRBIJA.pdf

57 https://www.ekologija.gov.rs/wp-content/uploads/javne_rasprave/2020/EXANTE-ANALIZA_KONACNO-V4.pdf

58 http://www.skgo.org/storage/app/uploads/public/159/579/857/1595798573_Analiza%20kapaciteta%20za%20tranziciju%20ka%20cirkularnoj%20ekonomiji%20na%20lokalnom%20nivou-final%20bez%20korice.pdf

A comparative analysis with EU policies can lead to the conclusion that it is necessary to review public policies in the Republic of Serbia, consider and compare economic instruments and other transition mechanisms with the available EU models for the transition to CE. In the coming period (10 years), during the recovery from the health crisis and the continuation of the transition to CE, the resource policy in the Republic of Serbia should be completely changed, ways of doing business should be improved and harmonised with CE models and the competitiveness of the national economy should be strengthened.

The commitment of the Serbian Government to align economic development with environmental protection is the missing part, although it is the starting point for the leading position and the initiation of changes in line with the Green Agenda for the Balkans. **The existing horizontal public policies do not give the impression that the Republic of Serbia's top priority is a "green economic agenda and sustainable business".** The transition to CE implies systemic changes in *energy policy, resource policy, environmental policy, capital investment planning, strengthening investment in cleaner technologies and innovative production processes.* On the other hand, there are indications that some mechanisms are already embedded in the national regulatory system, but for some reason are not sufficiently implemented, and there is no movement towards inclusive and sustainable models of the knowledge-based economy. The announced initiative for creating a common regional market is a good example of how the region can accelerate reforms and improve the economic environment. This agenda is timely because the entire region is facing the process of recovery from the COVID-19 pandemic.

A greater flow of goods, services, capital and a highly educated workforce will help make the Balkan region even more attractive to investment and trade, while aligning with EU rules will create even greater investor confidence. The plan provides a solid foundation for building our common goals towards a more stable, prosperous Western Balkans and accelerating its European integration process. It could change the region's economic environment in the next four to five years.

Energy

The Republic of Serbia is largely dependent on fossil fuels. It uses 70% of coal in electricity production, and according to the EU plans the use of coal should be gradually but completely eliminated. In January 2020, the Republic of Serbia adopted the National Emission Reduction Plan (NERP), i.e. the plan for the reduction of emissions of major pollutants originating from old large combustion plants. With this national document, the Republic of Serbia has committed to take measures to reduce pollution and to reach by 2027 the European limits for emissions from large combustion plants prescribed by the Large Combustion Plant Directive. Such an ambitious plan implies serious measures. Serbia has pledged to bring down emissions, primarily from large power plants.

In order to ensure energy security, the Republic of Serbia should focus as soon as possible on sustainable energy sources and green energy transition. According to the Fiscal Council, Serbia has largely depleted coal reserves, and on the other hand, if Serbia continues to produce energy from fossil fuels, it will be obliged to pay taxes on carbon dioxide, amounting to at least EUR 500 million per tonne annually, which would result in complete unprofitability.[59]

In the process of energy production transition, it is necessary to use a mixture of fuels for electricity production. The use of the potential of renewable energy sources in the Republic of Serbia is low (Table 4). Serbia currently generates 18.7% of its energy needs from renewable sources (hydropower - 7%, biomass - 10.5%, wind, solar energy, geothermal energy - 1.2%), which is less than 27% of the commitment made to the Energy Community in 2012. In addition, the 2012 plan to increase the consumption of biofuels in the transport sector from 0 to 10% was not achieved.

59 http://www.fiskalnisavet.rs/doc/analize-stavovi-predlozi/2019/Analiza_poslovanja_i_preporuke_za_reformu_i_povecanje_investicija_EPS-a.pdf , p. 3.

Table 5: Overview of renewable energy sources

RENEWABLE ENERGY SOURCES	Current utilisation percentage	Territorial distribution
BIOMASS POTENTIALS		
Wood biomass - forest biomass	66.7%	Central Serbia
Agricultural biomass	~2%	AP Vojvodina
Biodegradable municipal waste (waste edible oils)	0 %	Sanitary landfills
Waste of animal origin (slaughterhouse waste)	Data unavailable	
30% of the total biomass potential is currently utilised.		

UTILISATION OF ALTERNATIVE ENERGY SOURCES FOR ELECTRICITY GENERATION IN THE REPUBLIC OF SERBIA IN 2019		
Hydroelectric power plant	7%	
Biomass	10.5%	
WIND POTENTIALS	1.2%	Vršac Municipality, border with Romania - Belgrade
SOLAR ENERGY		South Serbia (Niš, Leskovac, Vranje)
GEOTHERMAL ENERGY		Vojvodina

Source: Ex-ante Impact Assessment for the area of circular economy

Due to this energy structure, Serbia emits about 30,000 kt of CO_2 per year, which means that Serbia generates about 0.7 kg of CO_2 per EUR of GDP, which is a value that indicates that the **economy and population are largely dependent on fossil fuels and that industry is energy-intensive.** [60]

The identified **challenges that stand in the way** of the transition to energy efficiency:

- *Subsidies for electricity generation and other state subsidies for electricity produced from coal;*
- *Insufficient utilisation of Renewable Energy Resources (RES) potential in the Republic of Serbia, i.e. wind energy, solar energy, biomass, hydropower, geo-thermal energy;*
- *Prices for electricity are determined by square metre, not by consumption;*
- *The Climate Change Strategy with the Action Plan has not been completed;*
- *The Law on Climate Change, which would create mechanisms for reducing CO_2 emissions, has not been adopted;*
- *Infrastructure for natural gas supply to industrial zones is not sufficiently developed;*
- *Lack of incentives for energy efficiency and energy savings (ESCO model);*
- *The legal and investment framework for energy sustainable policies needs to be revised.*

A new package of energy laws, aimed at achieving sustainable energy policy and stability, has been announced.

This year (July 2020), the Energy Community Secretariat launched the WB6 Energy Transition Tracker, covering all Balkan countries. The WB6 Energy Transition Tracker will monitor the efforts of all relevant stakeholders, including governments, investors, market players, citizens in the energy transition, on the path to decarbonisation.

60 https://www.ekologija.gov.rs/wp-content/uploads/javne_rasprave/2020/EXANTE-ANALIZA_KONACNO-V4.pdf , p. 30

Waste

The waste management policy in the Republic of Serbia requires fundamental and substantial changes and harmonisation with new EU policies on the transition to CE and waste management. Although the Law on Waste Management introduced a new waste management hierarchy harmonised with EU regulations, according to all European Commission reports, the Republic of Serbia is at the very beginning of implementing regulations on waste management and has low recycling rates, air pollution and unresolved problem of municipal wastewater. It was planned to adopt a public policy document on waste management in 2020, but it was postponed indefinitely due to the circumstances caused by the COVID-19 pandemic and the government reshuffle. This document is expected to base the waste management policy on the principles of CE and sustainable development goals, as well as on CO_2 emission reduction, reasonable and realistic deadlines for economic adjustment.

In addition, it is necessary to develop national and local waste management plans. All planning documents must be harmonised for further implementation through regulatory instruments that will establish a system of sustainable waste management, a market for secondary materials and raw materials, raise recycling targets, improve the system for the implementation and monitoring of regulations. First of all, the establishment of extended responsibility schemes for special waste streams and the digitalisation process in Serbia can help a lot.

For the needs of implementing the PLAC III project, financed by the EU in cooperation with the Ministry of European Integration and the Delegation of the European Union to the Republic of Serbia, and for the purpose of completely transposing a set of waste management regulations into Serbian legislation, the following measures have been taken:

- Implementation of the PLAC III project in which the Ministry received expert assistance in the development of the *Manual on the transport of hazardous waste as dangerous goods* in accordance with the procedures of

the competent authorities. Through this activity, the competent authorities received the necessary analysis and good practice assessment between the Waste Framework Directive 2008/98/EC (WFD), which was amended by Directive (EU) 2018/851 and replaced by Directives 94/55/EC, 2008/68/EC and 2010/35/EC on the transport of dangerous goods.

- The analysis and assessment of good practice with respect to the Environmental Liability Directive (ELD) 2004/35/EC, in relation to the Waste Framework Directive (WFD) 2008/98/EC, replaced by Directive 2018/851, and Regulation 1013/2006/EC on transboundary movement of waste, is expected to be completed by the end of February 2021.
- In addition, through the PLAC III project, expert support is being provided for the harmonisation of legislation with Directive (EU) 2018/852 amending Directive 94/62/EC on packaging and packaging waste and the Single-use Plastics Directive. Expert missions for other special waste streams are also expected in the coming period.
- New activities have been proposed, necessary to harmonise the national legislative framework with EU directives in the field of waste sludge management. Also, a proposal was made to complete the national framework in order to harmonise technical requirements and other criteria for certain types of waste that cease to be waste, such as paper, rubber, textiles and aggregates.

The Ministry of Environmental Protection is responsible for the progress of transposition through progress monitoring and implementation of the following EU directives and regulations:

1. ***Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing Framework Directive 75/442/EEC, Directive 2006/12/EC*** establishes the system for coordinated waste management in the EU with the aim of limiting the generation of waste.
2. ***Council Directive 1999/31/EC on the landfill of waste*** aims, by way of stringent technical requirements, to reduce as far as possible negative effe-

cts of waste disposal on the environment, in particular the pollution of soil, surface water and groundwater, and to eliminate risks to human health.

3. ***Directive 2000/76/EC of the European Parliament and of the Council on the incineration of waste.*** The aim of this Directive is to set standards to reduce the pollution of air, water and soil resulting from waste incineration and co-incineration, thus preventing risks to human health. **On 7 January 2014 this Directive was replaced by Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).**

4. ***Directive 2006/66/EC of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC on batteries and accumulators containing certain dangerous substances*** introduces measures for disposal and control of disposal of used batteries and accumulators containing hazardous substances.

5. ***Council Directive 96/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)*** aims at defining the controlled handling and elimination of PCBs and PTCs, the decontamination of equipment containing them and the way of disposing uncontaminated equipment.

6. ***Directive 2000/53/EC of the European Parliament and of the Council on end-of life vehicles*** establishes measures to prevent the generation of waste from end-of-life vehicles by stimulating the collection, reuse and recycling of their components (tires, batteries, oil) to protect the environment.

7. ***Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment*** aims at restricting the use of certain hazardous substances in electrical and electronic equipment.

8. ***Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment*** repeals Directive 2002/96/EC on waste electrical and electronic equipment with effect from 15 February 2014.

9. ***Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC*** ensures the implementation of international obligations in the field of chemicals and waste management. It regulates the production, placing on the market, use and elimination of substances that are prohibited or restricted under the Stockholm Convention or the UNECE Protocol on Persistent Organic Pollutants (POPs).

10. ***Regulation 1013/2006 on shipments of waste*** regulates the supervision and control of transboundary movements of waste.

11. ***Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)*** replaces Directive 78/176/EEC of 20 February 1978 on waste from the titanium dioxide industry.

12. ***European Parliament and Council Directive 94/62/EC on packaging and packaging waste amended by Directives 2005/20/EC, 2004/12/EC, 1882/2003/EC*** implements the EU packaging waste strategy and aims at harmonising the national measures for packaging waste management.

13. ***Directive on asbestos and waste containing asbestos.***

Due to all the above, the Ministry of Environmental Protection has a great responsibility in the process of transition to CE models, because all these directives are more or less transposed into the legal system of the Republic of Serbia, but now when the public policies in the waste management sector have been changed, it is expected to achieve even higher level of harmonisation with the needs of Serbian industry and to focus on the implementation of CE principles and their monitoring.

Industrial policy in the Republic of Serbia

The most important priority for the development of industrial policy is to be based **on knowledge, innovation and sustainable resource policy**. Its goal is to provide an environment for the growth of competitiveness of various industrial sectors through the encouragement of innovation, education, digital transformation of investment and the circular economy. The Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030 (*Official Gazette of the RS*, no. 35/2020) was adopted in March 2020 and contains comprehensive reform processes with a focus on manufacturing industry in order to promote the general economic growth in the Republic of Serbia. The Strategy was drafted in accordance with the European Industrial Strategy and took into account all the basic pillars of the development of modern industrial policy with set realistic goals, measures, planned financial support, monitoring and evaluation. Based on this Strategy, an action plan for its implementation will be developed in 2021, including measures for fulfilling the Strategy.

The industrial development in the Republic of Serbia, envisaged in the previous Industrial Development Strategy for the period 2011-2017, did not meet the planned strategic goals (Table 5).

Table 6: Achievement of strategic goals for the development of industry in the Republic of Serbia in the period 2011-2017

Target variables	Average growth rate (%)	
	Projected 2011-2020	Achieved 2011-2017
GDP	5.8	0.9
INVESTMENT	9.7	2.4
INTERNAL FINAL DEMAND	4.7	0.5
CONSUMPTION	3.5	0.1

Target variables	Average growth rate (%)	
	Projected 2011-2020	Achieved 2011-2017
EXPORT OF GOODS	14.2	10.7
MANUFACTURING INDUSTRY	7.3	3.3
CONSTRUCTION	9.7	0.0
EMPLOYMENT GROWTH IN MANUFACTURING INDUSTRY TOTAL	18.0	0.4

Source: Statistical Office of the Republic of Serbia, calculated by the Ministry of Economy, retrieved from the Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030

The current Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030 is structured differently from the previous one, striving for unification of European market values with the aim of bridging the existing industrial gap and enhancing the low economic activity in the Republic of Serbia on the basis of future sectoral analyses and plans for the implementation of activities. The time frame of the Strategy is in accordance with EU industrial policies, which is even more encouraging in terms that the Government will have the strength to make an investment shift in dialogue with businesses and succeed in motivating them to improve production processes through circular economy business models.

The measures identified in the Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030 for the implementation of the circular economy:

i. *Promotion of CE and education of economic operators with a focus on the importance of more efficient use of material resources and energy efficiency in industrial processes and opportunities for savings in the production process and the possibility of making profit.*
ii. *Encouraging investments in implementing the circular and low-carbon economy as a generator of economic growth, where it is proposed to favour inve-*

stments in equipment that meets the European energy efficiency standards and certificates.

iii. *Encouraging more efficient use of material resources and energy efficiency in industrial processes, where it is proposed to favour equipment that is calibrated to use recycled resources.*[61]

These are rather broad measures, but can be successfully implemented through sector-specific public policies. It is clear that they **focus on the use of cleaner technology and the reduction of greenhouse gases and on the changes in resource sustainability.** What needs to be done in the *Action Plan for the Implementation of Measures* is to synchronise fiscal, educational and regulatory measures in the transition process for cross-sectoral harmonisation. **If 10% of circular resources are used in production processes by 2030, it will be an indicator that the established requirements have been met.** The implementation of the measures from the Strategy and the efficient transition to CE requires the starting points to be thoroughly determined through the identified potential sectors.

These are the conclusions that emerged from the dialogue with economic operators on the topic of the transition to the circular economy for the purposes of the Strategy:

i. *It is necessary to increase state subsidies for the transition to a circular economy.*
ii. *It is necessary to carry out increased control of the manner of allocation of funds collected from environmental taxes in the Republic of Serbia.*
iii. *It is necessary to reduce the current inefficient use of resources in production processes.*
iv. *It is necessary to develop the institutional infrastructure for the application of regulations and discrimination between domestic and foreign companies.*
v. *It is necessary to establish a more suitable system of stimulating and repressing measures in order to align production processes with new policies and European production trends.*

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61 Strategija industrijske politike Republike Srbije za period 2021 do 2030 str.47 (Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030, p. 47)

vi. *Work on improving the infrastructure for the application of the concept of circular economy, in particular communal and energy infrastructure.*

vii. *Establish a supportive environment that would promote investment in green technologies, waste management and production systems.*

viii. *Improve awareness of the possibilities of introducing solar panels and selling surplus products.*

ix. *The greatest potentials for the application of circular economy models are: manufacturing industry (with special emphasis on the food industry), wood industry, construction and primary agriculture.*[62]

A special goal of this Strategy, very closely related to the transition to a CE model, is **industrial development based on innovation and the development of higher stages of technological production.** The Republic of Serbia has planned financial resources for providing incentives to industrial operators for the development of innovative solutions through projects of cooperation with the scientific and research community. The goal is to move industrial production towards higher stages of technological production through concrete project research.

The Strategy identifies the importance of **including and connecting industrial operators in international programmes** aimed at developing innovative solutions and improving competitiveness. The aim of this measure is to connect companies with foreign partners in order to obtain grants from EU funds.

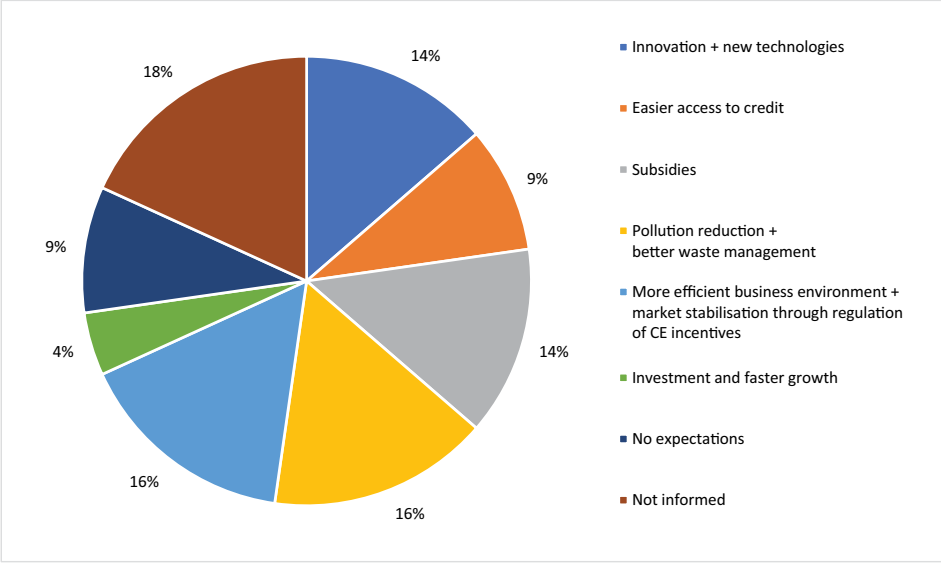
These two Strategy goals need to be monitored in parallel and actively connected in the processes of implementing the Strategy.

For the purpose of this Gap Analysis, we surveyed economic operators to find out about their expectations related to the Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030. Figure 4 presents statistics on the areas that companies recognised as most important. These areas include: innovation and

62 Strategija industrijske politike Republike Srbije za period 2021 do 2030 str. 35 i 36 (Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030, pp. 35 and *36*)

technology (14%), easier access to credit (9%), subsidies (14%), pollution reduction and better waste management (16%), more efficient business environment and market stabilisation through regulation of CE incentives (16%), investment and faster growth (4%); 9% of them have no expectations and 18% of them are not informed. It is worrying that as many as 18% of companies are not familiar with the adoption of the Industrial Policy Strategy and the changes that will be implemented by the Government of the Republic of Serbia.

Figure 4: Share of expectations from the Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

There are economic and regulatory instruments that can positively stimulate society and businesses to manage raw materials in a responsible and sustainable way. This method is especially recommended in countries where extended responsibility schemes and waste management systems have not been developed. **In the CE model, the way of monitoring raw materials and their movement is crucial.** The following indicators show the shortcomings in the system, how to reduce the

generation of industrial waste in production processes through economic relations by applying the model of industrial symbiosis.

1. **National resource productivity** – is the leading indicator of the use of inputs in industrial processes, which is presented through statistical data. These data cannot provide a direct insight in the environmental impact, but can certainly be an indicator of the reduction of negative impacts.

2. **Circular activities** – indicators of circular activity can be presented through eco-innovations in production and recycling targets and recyclables used in remanufacturing processes.

3. **Industrial waste generation** shows the degree of the connection between production processes and industrial structure with total waste generation. Circular economy business models can contribute a great deal to reducing the generation of industrial waste.

4. **Energy consumption and greenhouse gas emissions** - use of clean technologies in the production process and use of renewable energy sources in industrial production processes.

These four pillars/indicators must be embedded in all regulatory instruments because they are essential for the transition to CE business models and quantify the scale of circularity.

It is necessary to make a qualitative assessment of potential by sector in order to consider the possibilities of development, given that **CE business models cannot be uniformly applied to all sectors** or transposed from other economies. The basic economic activities of sectors are taken into account as indicators and their impact is assessed according to the appropriate CE business model. This methodological approach requires the intensive involvement of businesses in detailed assessments of input data and implementation barriers in order to create a strategy for the implementation of activities.

Green public procurement in the Republic of Serbia

Green public procurement is a voluntary regulatory instrument that greatly influences the transition to business based on circular economy models. One of the criteria in green public procurement is the environmental impact of products, the so-called environmental footprint. Given that this is a voluntary regulatory instrument, we can speak in terms of contracting authority's social responsibility and the cost-effectiveness of managing public finances. In describing the conditions of the public procurement of goods, services or works (hereinafter goods), the contracting authority (public sector) should take into account the procurement and operating costs of ordered goods, maintenance costs, product life cycle and end-of-life disposal costs.

Given that large infrastructure projects have been announced in the Republic of Serbia for the coming period, such a procurement model could largely contribute to the implementation of capital investments in an environmentally sustainable way. In the construction sector in the Republic of Serbia, there are isolated examples of good practice in the application of CE business models. As early as in 2015, the *Decree on technical and other requirements for ash as building material intended for use in the construction, reconstruction, rehabilitation and maintenance of infrastructure facilities of public purpose* was adopted (*Official Gazette of the RS,* no. 56/15), which has not been applied to date, although it has the capacity of solving the issue of ash in construction in a sustainable manner.

According to the analysis of the Serbian Chamber of Commerce, the value of public procurement in 2018 amounted to 403.9 billion dinars, which was 7.98% of the gross domestic product. The largest share is attributable to public enterprises (33%), health care and social protection sector (17%), public enterprises/local self-government (17%), public sector bodies (14%) and city and municipal administration (13%), which together make up 94% of the total value of procurement. As regards the structure of public procurement, there were 28% of works, 49% of goods and 23% of services. **In 89% of public procurement cases, the criterion was the lowest price.** The room for savings and promotion of green pub-

lic procurement is quite large. According to the Annual Report of the Public Procurement Administration (PPA), the share of public procurement in the gross domestic product of Serbia was 7.68% in 2017, while in 2018 there was a slight increase (7.98%).

Article 6 of the Law on Public Procurement (*Official Gazette of the RS,* no. 91/19) determines the **principle of cost-effectiveness and efficiency of bidders**, while paragraph 1 stipulates that the contracting authority must be guided by the **principle of cost-effectiveness in spending public funds**. Precisely this principle gives the contracting authority the opportunity to include in tender documentation the requirement of cost-effectiveness, which is not reflected in the "price" criterion, but in the total costs of public procurement. In order to fully meet this principle, the PPA must develop a guide that will help public sector representatives to include this principle in technical documentation and procurement criteria and define requirements concerning the environment and energy management.

Article 132 of the same law sets forth the improved criteria according to which the contracting authority awards the contract to the economically most advantageous bid, which is determined on the basis of **one** of the following criteria:

i. Price;

ii. Costs, by applying the cost-effectiveness approach, such as life-cycle costs. Life-cycle costs include, to a relevant extent, some or all of the following costs during the life-cycle of goods, services or works: procurement costs, use costs, such as consumption of energy and other resources, maintenance costs, end-of-life costs, such as collection and recycling costs;

iii. Costs attributed to external environmental factors related to goods, services or works during their life-cycle, provided that their monetary value can be determined and verified, and which may include the costs of greenhouse gas emissions and emissions of other pollutants, and other costs of climate change mitigation. If the contracting authority uses the life-cycle cost criterion, it is obliged to indicate in the tender documentation the data that the bidders should submit and the method that the contracting authority uses to determine the life-cycle costs on the basis of such data.

The assessment of costs attributed to external environmental factors must meet all the following conditions:

- *It should be based on objectively verifiable and non-discriminatory criteria, and if it does not refer to multiple or permanent application, it may not unjustifiably favour or eliminate certain economic operators;*
- *It should be available to all stakeholders;*
- *The requested data may be provided, with reasonable efforts, by conscientious economic operators, including economic operators from third countries that are parties to the Agreement on Government Procurement (GPA) or other international agreements binding on the European Union and the Republic of Serbia.*

The contracting authority may determine the element of price or cost in the form of pre-established price or cost, so that the economically most advantageous bidder is determined on the basis of quality criteria.

Thus defined criteria are certainly a step forward, but it can be expected that **price** will continue to be the criterion for public procurement. Those who publish invitations to tender are not stimulated to advocate for green procurement, because it is important for them to get the lowest price, although according to Article 6 of the Law, the principle of cost-effectiveness is defined differently.

The public sector is a major buyer and could play a leading role in promoting green procurement. By promoting and using green public procurement, public institutions can provide real incentives to the industrial sector as well as for the development of green technologies and products. In addition to direct measures for implementing the goals of environmental policy, the state could, by stimulating green procurement, indirectly contribute to GDP growth.

The Sustainable Urban Development Strategy of the Republic of Serbia

The Sustainable Urban Development Strategy of the Republic of Serbia by 2030 (*Official Gazette of the RS*, no. 47/2019) defines sustainable development as the harmonisation of economic, social and environmental aspects of development, rational use of non-renewable resources and ensuring conditions for greater use of renewable resources. The overall goal of the Strategy is to achieve sustainable development of urban settlements through the improvement of economic, social and cultural development. Specific objectives are defined through the strategic directions of the Strategy.

Territorially, 90% of economic activities are performed in only 9% of the urban area. In order to achieve the strengthening of economic development, it is necessary to enhance the investment capacity of regions and municipalities in order to strengthen the local economic growth and development of the Republic of Serbia.

The identified strategic directions of urban development are:

i. *Sustainable economic development;*
ii. *Arrangement of urban settlements;*
iii. *Social welfare;*
iv. *Environmental quality;*
v. *Urban development management.*

For the purpose of this report, we have focused on **urban development related to sustainable economic development** and on **environmental quality.** Measure 1 identifies the improvement of conditions for local sustainable economic and urban development through green economy innovations and encouragement of social entrepreneurship that can be implemented with incentive measures.

Economically sustainable development focuses on the importance of brownfield sites in order to prevent greenfield investment. According to the Strategy, the development of brownfield sites is possible through co-financing and financing

from public funds. The development of such investments will increase employment rates.

All the aforementioned regulations refer to the horizontal policy framework necessary for the initial stage of the transition to CE. In addition, sectoral regulations were not taken into account in this analysis because we believe that they were thoroughly elaborated in the Ex-ante Impact Assessment Report, prepared for the needs of developing the Circular Economy Programme, and in the meantime there were no newly adopted regulations in this area.

Digitalisation as a tool in the process of recovery from the COVID-19 health crisis and transition to sustainable business model

Before the health crisis, the Republic of Serbia had recognised the importance of digitalisation in modernising the socio-economic transition. The health crisis problem has only further accelerated the process of digitalisation through the transition to e-government services and electronic communication. Many public databases are available in electronic format, an electronic signature has been introduced and intensive work on the development of e-government has been done. In the banking and insurance sector, platforms have been established to enable increased and reliable processing of consumer data. However, much remains to be done on the digitalisation path. First of all, it is necessary to align the regulations on personal data protection and cybercrime prevention to avoid potential abuse.

Irrespective of the type of platform, data spaces could become the key instance for clarifying and streamlining data control rights and balancing them with rules on data access and use. This particularly relates to areas where control rights are an important concern because of sensitive data at stake (e.g. health), or because of an existing competition between different actors (e.g. agriculture, transport, energy).

Interoperability and data quality are also key issues that could be addressed by common data spaces. It is, therefore, necessary to take into account the cross-sectoral standardisation of electronic data for their unhindered use. Data digitali-

sation in the sector of waste and inputs, and the establishment of a digital database containing the information on the availability and quantity of recyclables can greatly contribute to a sustainable way of doing business and the application of the CE model. Therefore, the process of digitalisation should not be viewed separately from the process of the transition to CE. In fact, all these activities initiated even before developing the action plan for the implementation of the Industrial Policy Strategy can contribute to accelerating the transition to CE.

Digitalisation is one of the key tools in the transition to CE. It has also been identified as a specific objective of the Industrial Policy Strategy of the Republic of Serbia.

In order to improve digitalisation for industrial production business models, the following measures have been envisaged:

- *Promoting the digital transformation of industry in order to raise awareness and knowledge of companies about the possibilities of digital transformation for their business.*
- *Programme of training and advising companies on the application of industrial solutions aimed at increasing the competitiveness of companies and implementing the smart specialisation measure defined in the Strategy.*
- *Incentive programme of support for the digital transformation of industry, which will help companies to introduce digital solutions into their production processes through specific projects implemented by companies with the support of grants (up to 50%).*
- *Increased availability of financial instruments for digitalisation and innovation in industry through the implementation of innovative projects in the development of certain applications.*
- *Ensuring an adequate level of digital security for industry.*
- *Aligning digital education with the needs of industry.*
- *Incentive programmes for strengthening the digital skills of employees in industry through the non-formal education system.*

In industrial production, the creation of platform was certainly most common.

Given that the health crisis can be expected to last for some time and that the possibility of fair activities and the conquest of new markets will be physically limited, the development of digital platforms will greatly contribute to the exchange of information and technology. Thanks to digitalisation and wide internet availability, some companies were able to take over applicable technologies and start producing protective equipment, thus contributing to coping with the first wave of the health crisis.

A good practice example in implementing the CE model through digitalisation:

Precious Plastic

https://preciousplastic.com/universe/ made available the knowledge and ideas about waste reduction and machine modularity. This industrial openness helped overcome the struggle of countries to produce protective equipment. During the shortage of protective medical supplies, Precious Plastic made available its modular technological processes and instructions, offering them to experts and manufacturers.

After running out of protective medical supplies some companies used recycled granules to produce protective gear, owing to their machines.

Institutional framework for the implementation of measures for recovery from the COVID-19 crisis and transition to sustainable business

The main drivers of change are small and medium-sized enterprises, but the government plays an equally important role in ensuring the predictability of investment planning through public policies and economic instruments. Given the new global economic changes, CE transition activities should be consolidated and synchronised through COVID-19 recovery activities coordinated by the Government of the Republic of Serbia as the holder of public (executive) power. On the other hand, the dialogue should be led by the Serbian Chamber of Commerce - Circular Economy Hub (CEH), representing the interest of economy. It is necessary to institutionally determine the way of communicating between decision

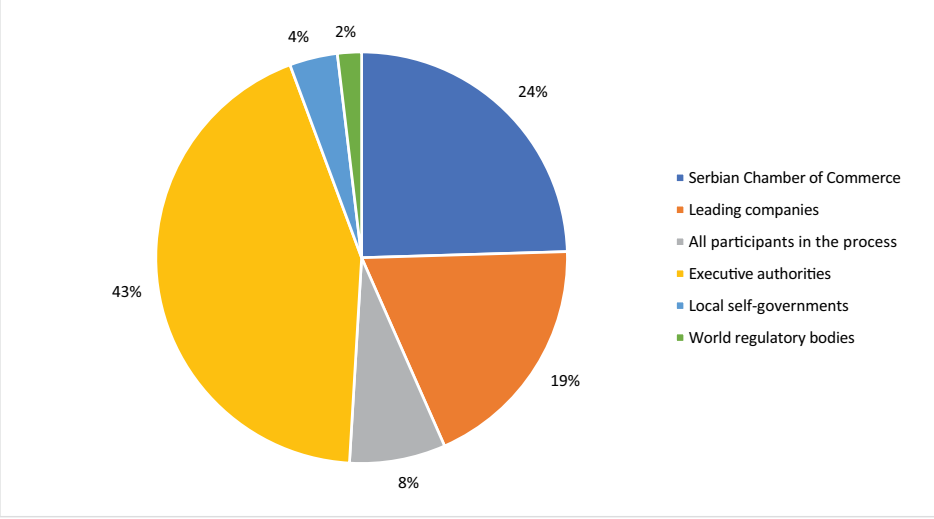
makers and businesses. On behalf of the business community the communication of the Serbian Chamber of Commerce towards other sectors should be impartial, professional and supportive towards the CE concept. If this opportunity for change and industrial shift is missed, difficulties in overcoming the economic recession, but also in meeting the Agenda 2030 sustainable development goals, can be expected, along with a decline in the competitiveness of domestic companies in the European and world markets.

During the pandemic and the health crisis, the Serbian Chamber of Commerce began to create a digital platform through an e-Chamber. The Circular Economy Hub (CEH) will utilize the e-Chamber to set up a digital classroom and library for informal education of businesses related to the circular economy. The digital CEH of the Serbian Chamber of Commerce, an interactive platform will carry different databases in order to continuously advance access to updated information provided to businesses. The CEH will also begin to facilitate cross-sectoral industrial communication in a transparent and accessible way, providing companies with the opportunity for networking and exchanging various information, concerns and positive experiences.

In 2019, the Ministry of Environmental Protection **initiated a special working group for the circular economy**, consisting of representatives of various ministries (the Ministry of Energy and Mining, the Ministry of Economy, Tourism and Telecommunications, the Ministry of European Integration, the Ministry of Finance, the Ministry of Education, Science and Technological Development), representatives of the Government of the Autonomous Province of Vojvodina, the Public Procurement Directorate, the Institute for Standardisation, the Statistical Office, the Standing Conference of Towns and Municipalities, the Serbian Chamber of Commerce, GIZ, UNDP, OSCE, NALED. In addition to these institutions, representatives of the Fiscal Council should be included in a special working group. To date, this initiative has not been approved by the government, and it continues to work as an informal working group that brings together agents of change who, within their own competences, contribute to the transition to the circular economy.

The findings of the conducted survey show that economic operators have divided opinions about who should manage this process. Most of them believe that the government should be responsible for the process, while the second largest group considers it to be the responsibility of businesses. Only 8% of respondents recognise that this is a **team process** in which everyone has a role and opportunity to contribute with their experience and knowledge to the improvement of society and the prevention of further potential crises.

Figure 5: Share of actors responsible for leading the process



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

The authors of this report believe that this is a team process that must be led in two directions in a synchronised manner. One direction is towards decision makers and the public sector that need to be educated about the importance of the transition to CE and about improving skills for the transformation to digital platforms, as the main channel of communication with economic operators. On the other hand, it is necessary to work intensively with economic operators through general education about CE and the upcoming reform changes in the way of doing business, which can directly affect the decline in the competitiveness of companies if they continue with established business activities.

Digitalisation of administrative procedures in the Republic of Serbia

Administrative procedures play a major role in enhancing the competitiveness of Serbian economy. The public sector, within its procedures and competences, could significantly shorten and facilitate the daily operations of companies by transferring communication with economic operators to a digital platform. Digitalisation is among the developmental priorities of the Republic of Serbia. With the introduction of digitalisation in the public sector, an accelerated transition to e-government can be expected. It will enable the public sector to monitor the implementation of regulations and procedures easier, within its purview, through various databases and reports of companies.

This method is widely used in tax reports where all documents are sent in electronic format. The Environmental Protection Agency is also improving its operation by introducing digital reporting platforms. Cross-sectoral connectivity, which already exists in the construction sector, can be easily applied to other cross-sectoral communications, which would make access to data easier and more transparent. High-value datasets are often not available under the same conditions to all administrative and economic sectors. It is mainly to the detriment of SMEs because they are unable to access data that may be relevant to them for investment projects.[63]

Other activities that have contributed to the promotion of sustainable business and response to the COVID-19 health crisis

The new crisis has changed the way of organising conferences, affecting the exchange of knowledge and ideas. The Serbian Chamber of Commerce - Circular Economy Hub introduced the weekly digital magazine Eco Corner during

63 https://ec.europa.eu/info/sites/info/files/communication-european-strategy-data-19feb2020_en.pdf

the state of emergency. The goal was to initiate a "digital" dialogue about strategic approach, planning and identification of key barriers, primarily in the waste management sector, with the aim of proposing to the Government measures to actively address numerous challenges faced by the state, economy and citizens. In the Eco Corner[64], renowned experts commented on the situation caused by the health crisis. They led debates, presented views and exchanged information that contributed to raising awareness about sustainable business and the waste problem faced by the Republic of Serbia.

In addition to this, numerous webinars and discussions on the topic of environmental protection and CE have been organised.

These are the common views of experts and economic operators, which were collected through analysis, plans and implemented projects dealing with the transition to CE:

i. *Experts and economic operators should be acquainted with the need to move to CE business models (which was confirmed by the survey of economic operators in Serbia presented in this report) and the notion of CE, which is still associated with recycling and waste management.*
ii. *It is necessary to determine the institutions that will take the leading role in the process of the transition to CE.*
iii. *Investments in economy are small due to an insufficiently predictable investment and regulatory framework.*
iv. *It is necessary to enhance the dialogue with economic operators in the process of enacting regulations, and not during public hearings.*
v. *It is essential to include in the transition and changing of public policies representatives of the following sectors: energy, waste management, fiscal and tax systems and already recognised leading industrial sectors for the transition: production, packaging, construction and agriculture (in particular food waste).*
vi. *Establish financial planning to allocate funds for the development of CE model.*

64 https://pks.rs/vesti/eco-corner-2573

The Green Agenda for the Western Balkans

The Green Agenda was preceded by an agreement on the establishment of a common economic space in the Western Balkans, the so-called "mini-Schengen". The Declaration on Free Movement of People, Goods, Services and Capital in the Western Balkans was signed by Serbia, Northern Macedonia and Albania. The implementation of "mini-Schengen" provided companies with a larger regional market, with nearly 20 million consumers, without barriers to mutual trade and investment. This implies a **common market and investment**, harmonisation of public policies and regulations within the region and alignment of new European standards, simplified administrative procedures and a duty-free zone, harmonisation of veterinary and phytosanitary certificates for the free movement of people and goods. This is a joint initiative of regional chambers of commerce consisting of over 350,000 companies with the aim of creating a common market.

At the Western Balkans Summit in Sofia, which was held on 10 November 2020, it was agreed to adopt the **Green Agenda for the Western Balkans**, which included 5 main topics.

I. Climate change, including decarbonisation, energy and mobility

The climate change pillar includes regional initiatives for harmonisation with EU climate law, preparation and implementation of a long-term climate adaptation strategy to increase resilience, especially through investment in climate protection. In order to implement this strategy, it is necessary to ensure technical assistance in the emissions trading scheme and alternatives to fossil fuels, to explore possibilities for early inclusion of the Western Balkans in EU emissions trading, and inclusion of the region in the European Climate Pact and its activities.

The transition to clean energy implies assistance in harmonising with EU legislation, development of national energy and climate plans, development of private and public schemes for renovation and security of buildings, adequate funding, spreading the "EU renovation wave" to the Western Balkans, assistance to part-

ners in implementing the programmes aimed at addressing the problem of energy poverty in the region, the accession of the Western Balkans to the initiative *Coal Regions in Transition*, and an assessment of the socio-economic impact of decarbonisation in the region.

Smart and sustainable mobility implies the implementation of a regional plan for the transformation of railways, a strategy for increasing the capacity of railways and developing new transport models, the implementation of EU standards, through the European Railway Traffic Management System. It also refers to the development of an action plan to facilitate transport and increase road safety, resilience to climate change, definition and implementation of sustainable urban mobility plans and sustainable mobility solutions.

II. Circular economy

CE implies special support for horizontal changes related to waste, recycling, sustainable production and efficient use of resources and the establishment of sustainable development policy. It also implies regional improvement of the sustainability of raw material production and joint work on integration into EU industrial supply chains. The agreement envisages the development of a regional circular economy strategy, an initiative for consumers, and the establishment of a regional agreement on the prevention of plastic pollution, with special reference to the issue of marine litter.

III. Biodiversity

It implies the development and implementation of the Biodiversity Action Plan in the Western Balkans by 2030, the restoration of the forest landscape in the Western Balkans by establishing biodiversity and their integration into the development of plans to combat climate change. It also includes the strengthening of regional cooperation on biodiversity conservation and implementation of the United Nations Rio Convention, the exchange of knowledge between the research centres of the Western Balkans and the EU, with the possibility of establishing an information centre for biodiversity in the Western Balkans.

IV. Combating air, water and soil pollution

It involves the development of a regional strategy for air quality and the implementation of Best Available Techniques in accordance with the Industrial Emissions Directive. As regards the regional fight against air pollution, it was agreed to do the accreditation of air quality monitoring networks and the inclusion of the region in pan-European networks that support pollution elimination initiatives.

It is planned to modernise the infrastructure for monitoring water and wastewater, and for the implementation of regulations on water and wastewater, at the regional level, through joint protocols of cooperation on the prevention of transboundary pollution. The development of infrastructure projects for waste and wastewater management is also envisaged.

V. Sustainable food systems and rural areas

Initiatives have been established for regional harmonisation of the food and agriculture sector and the primary production sector with the EU legislation and standards for food safety, health and welfare of plants and animals. Strengthening sanitary control throughout the food chain and labelling food products in accordance with food safety regulations. Support for improved consumer information and promotion of organic food through the promotion of ecological and organic farming with reduced use of synthetic chemicals. In this process, it is crucial to establish cooperation between scientific and educational institutions and producers and processors in the food and agriculture sector and to organise promotional actions for waste reduction in rural and coastal areas (along roads, in rural rivers). It covers joint development of initiatives for sustainable development of rural areas through the improvement of rural infrastructure under IPARD.

Based on the above, it can be concluded that the **Green Agenda is in line with the European Green Deal** and requires a good **plan of public and private funding at the national, regional and international levels.**

All financial grants so far have focused on the process of alignment with the *acquis communautaire* in line with the requirements of Chapter 27 and climate change.

IPA (Instrument for Pre-accession Assistance) III provides a dedicated financial framework for the implementation of the Green Agenda and sustainable connectivity and digital transformation in the amount of 14 billion for the period 2021-2027.

Through strategic documents, the Republic of Serbia strives to improve the competitiveness of the national economy, digitalisation and a better social environment in accordance with global and European policies. However, the ways and time frame for achieving these goals are still not sufficiently harmonised and mutually synchronised. Therefore, it is necessary to develop **a national guide with methodological recommendations for the transition to sustainable production and circular economy that would be in line with the priorities of the Green Agenda for the Western Balkans.** This type of guide could show the importance of circularity at the national and regional levels through key horizontal pillars of sustainability as well as through the definition of sectoral policies that should thoroughly elaborate the transition steps.

In line with public policies in the Republic of Serbia, there is a consensus on the necessity of:

- *Development of competitiveness of the national economy through the CE model and harmonisation with global and European trends;*
- *Use of alternative energy sources in production processes (due to the commitments to the Energy Community);*
- *Waste management policies that should contribute to increasing recycling targets and reducing landfills, through improved recycling processes.*

At the Summit in Sofia, EIB President Werner Hoyer expressed readiness that the European Union banks directly supported the implementation of these plans with their investments.

The Group of the European Investment Bank (EIB), which, in addition to the EIB, includes the European Investment Fund (EIF) will increase investments in the private sector and provide new financial instruments for its development under a new European guarantee instrument for the Western Balkans.

As the EU's climate bank, the EIB will provide financial and technical support for investments that contribute to the region's green transition, including the gradual diversification of the energy sector by introducing renewable and sustainable energy sources to gradually reduce carbon emissions. The initiative aims to help Europe become the first climate-neutral continent by 2050 in line with the plans from the European Commission's Green Deal. The EIB will also step up its investment in projects that enable the digital transformation of the Western Balkans.

The introduction of "smart" digital technologies will contribute to the sustainable and inclusive growth of economies in the region. Investments in digitalisation will accelerate the recovery and development of the private sector, improve the efficiency and ability of the public sector to function even in the situation of challenges such as the COVID-19 pandemic. Building a better energy, digital and transport network that the EIB is ready to support will have a positive impact on the regional economic development through more efficient trade, increased competitiveness of companies and job creation. The main goal of the Berlin Process is to enable more investment in the Western Balkans, and the EIB is ready to contribute by supporting the Economic and Investment Plan.

CE is emerging as an imperative of the time because the EU will increasingly insist on it during the process of post-COVID-19 recovery and will monitor development even more through a green prism. Resistance to change will only increase the total costs of economy and slow down the recovery period and the possibility of using grants for economic development (through the Balkan Investment Fund), which will, over time, further burden the Serbian economy. However, if the agents of change turn to CE, team up, explore opportunities for circular cooperation and align business with the CEAP, a new opportunity for positioning companies in the regional and European market will be gained.

Potential economic sectors for transition to circular economy in the Republic of Serbia

The Industrial Policy Strategy and the Serbian Circular Economy Roadmap identify the sectors that can lead to a successful transition to the circular business model in the Republic of Serbia. In addition to analysing national regulations, it is very important to hear the voice of economic operators that face potential barriers to a full transition to CE and a sustainable business model. A successful transition to CE requires consultations between economic operators and decision makers. Aligning the needs of identified economic sectors with national capacities for economic recovery in the aftermath of COVID-19 pandemic will contribute to synchronised activities and faster recovery.

The confidence of companies in the planning and development of investment potentials has been shaken, given that the adoption of certain regulations that could improve their business, their competitiveness and product value has been delayed from year to year.

Although a great part of data necessary to initiate a systemic sectoral transition to a sustainable business model can be found in the statistical database, the assessment of real economic sectoral potentials requires deeper and more detailed analyses of each industrial sector separately. Before systemic changes, it is necessary to make a detailed economic and administrative assessment of the existing capacity for transition.

The initial indicators should be:

i. *Sector size and economic potential, which was identified in the Roadmap based on the processed statistical data.*[65] *The contribution of the identified sectors to GDP growth and the potential for employment in these sectors are important.*

65 See the Serbian Circular Economy Roadmap.

ii. *Circular potential of the sectors, taking into account the use of resources on the one hand and the generation of industrial waste on the other hand. Generating a larger amount of waste from production (by-products), which can be further valorised in other production through industrial symbiosis.*

iii. *The impact of extended responsibility schemes for production activities, as well as raising consumer awareness about the possibility of returning the product or a different model of using the product without acquiring ownership.*

iv. *Survey and interviews, in order to see the real capacities of economic operators, and what kind of education they should be provided.*

The potential economic sectors identified in the Industrial Policy Strategy of the Republic of Serbia for the period 2021-2030 are: *manufacturing industry, especially food industry, wood industry, construction and primary agriculture*. These sectors have also been identified in the Serbian Circular Economy Roadmap and now this needs to be further elaborated in the Circular Economy Programme and the Action Plan for the Implementation of the Industrial Policy Strategy of the Republic of Serbia.

Further development of economic opportunities and potentials of the transition can be developed through sector-specific working groups. Sector-specific working groups will consider the further development and application of the most appropriate CE models in accordance with public policies and the Government's plan for the adoption of regulations, administrative and infrastructural development of local self-governments and real economic capacities. The processes of the transition to CE should take place in parallel, relying on an open dialogue between decision makers and industry since they are interdependent.

There are examples of European countries that have tried to develop a circular economy model independently of the development of public policies and state planning documents (*bottom-up approach*), separating the needs of economic operators and competitiveness from the administrative regime.

Another example are the countries that have opted for the *top-down approach* (from government to economic operators), but this way of implementing activities and measures has not been able to yield maximum results.[66]

Given that the EU is in the process of transition to sustainable business and the Republic of Serbia is in the process of EU accession, and that IPA and other grant funds are available, it is necessary to start **planning investment for the next decade** to implement the transition to sustainable business and economic recovery of the Serbian economy. In addition to being aware of the need to introduce clean technologies and acquire new skills, many companies are forced to **reduce investments and maintain current operations with minimal costs, which leads to problems in implementing transition activities, especially in times of crisis.** In the process of transition, the harmonisation of fiscal and tax policy related to economy plays an important role, as one of the main drivers for the improvement of production processes.

The situation of economy and potential capacities in the conditions of the health crisis in the Republic of Serbia were addressed in a survey conducted among economic operators for the purpose of this publication. In order to encourage businesses to shift to the CE business models, the analysis will provide an overview of the views obtained through the survey and interviews, and further guidelines for the transition. Although the CE model has already been elaborated in the literature where facts about economic and environmental potential and sustainability are presented, the Serbian economy is at the very beginning of this process and faces some problems from the past and those deriving from obsolete technology. Therefore, the publication provides proposals for further promotion of sustainable business, prioritisation of economic potentials based on the causal link between the capacity of economic operators, public policy for CE, administrative procedures and economic instruments. In order to better understand the current

66 In 2015, the EC adopted the first package of measures for the transition to CE and increasing the use of recycled raw materials, but it encountered inequality between countries and faced the challenges of ambitious targets.

capacities of economic operators, we have identified potential companies that, through their own business experience with the CE model, would point to the benefits of sustainable business and thus contribute to motivating other companies to enter the transition processes.

We believe that it is possible to gather detailed information on the situation in the sectors, through sector-specific working groups, dialogue between companies and individual training, in order to conduct a baseline situation analysis of economic operators and opportunities for improving the competitiveness of the domestic economy. This type of analysis not only contributes to the identification of business potential and value chain exchange, with the support of external experts, but also helps empower companies to independently establish new business opportunities aimed at breaking into new markets.

Analysis of the content of conducted survey and interviews

In accordance with the sample processing methodology, the survey was sent to over 100 addresses and responses arrived from **80 companies**. The survey questions were intended for companies across the Republic of Serbia in order to identify leaders of change. The survey included 4 sets of questions:

- Information about companies;
- Business operations in the state of emergency due to the COVID-19 health crisis;
- Information about the circular economy and digitalisation, investment barriers, existing capacities and investment plans of companies;
- Awareness of companies regarding EU policies and the climate crisis.

The survey included companies of different sizes, which showed to have a high level of awareness about key public policies, day-to-day business problems, the

importance of digitalisation and electronic communication with government, CE, climate change, energy efficiency, existing capacities and production methods.

General information about companies

By **geographical area**, companies from the entire territory of Serbia were approximately equally represented: Belgrade (21%), Šumadija (12%), Vojvodina (19%), Southern Serbia (15%), Southeast Serbia (15%), Western Serbia (12 %), Central Serbia (8%).

By the **size of enterprise**, 19% of micro-enterprises (up to 5 employees), 39% of small enterprises (up to 50 employees), 22% of medium-sized enterprises (up to 100 employees) and 20% of large enterprises (over 100 employees) were covered by the survey.

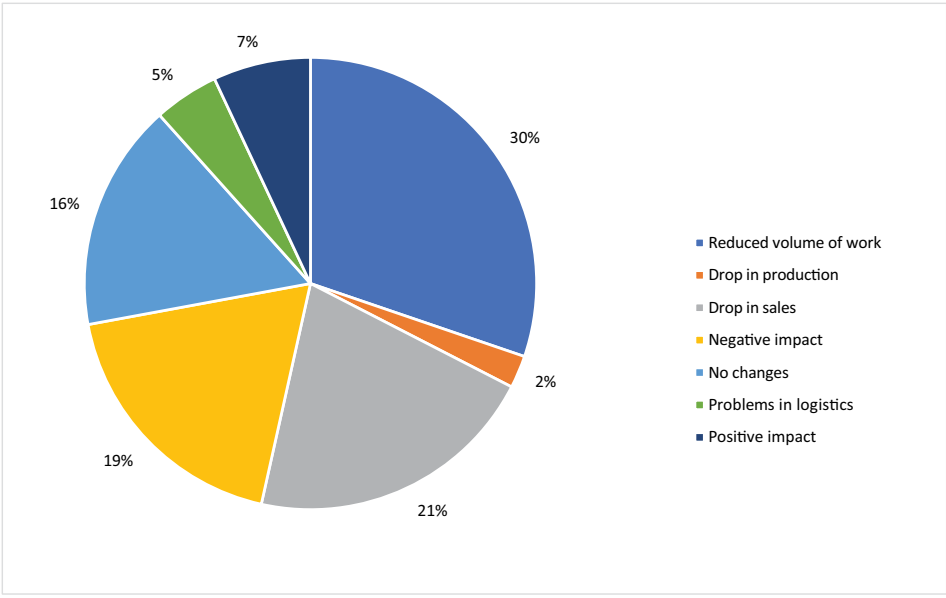
By **production sector**, most responses were received from companies engaged in production industry (58), construction industry (5), the provision of services (11) and the food sector (6).

By the **type of product**: finished products (38), semi-finished products (27), raw materials (1), services (2), (12) companies from the waste management sector, including two companies engaged in the production of secondary raw materials, while the others are engaged in industrial waste treatment.

Business operations in the state of emergency due to the COVID-19 health crisis

Impact of COVID-19 on day-to-day business of companies

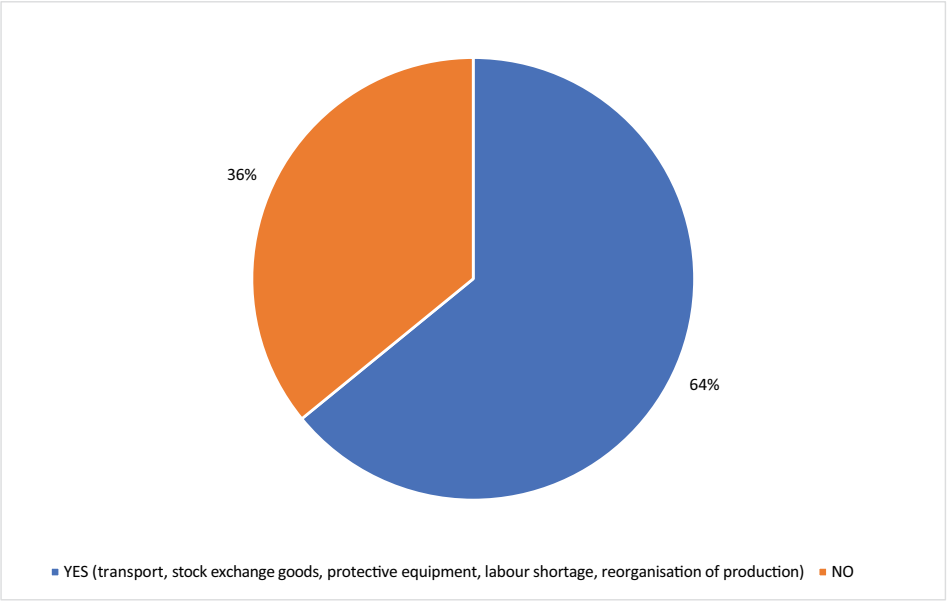
Figure 6: A graphic presentation of the impact of the health crisis on business operations in the period March-July 2020



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

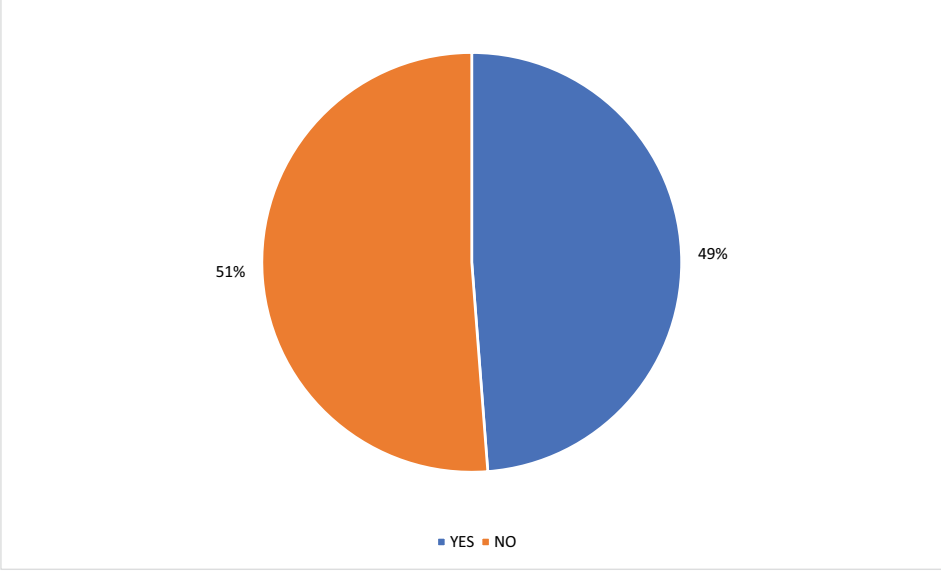
An increase in costs due to the health crisis occurred in 64% of companies, while 36% of companies did not have additional costs (Figure 7). During the state of emergency, half of the respondents had problems with the procurement of raw materials due to congestion in the transport system (Figure 8). Production capacities were reduced as a result of a smaller number of workers in production plants, which was in line with the Government Decree on prevention measures.

Figure 7: Cost increase



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Figure 8: Problems with the procurement of raw materials



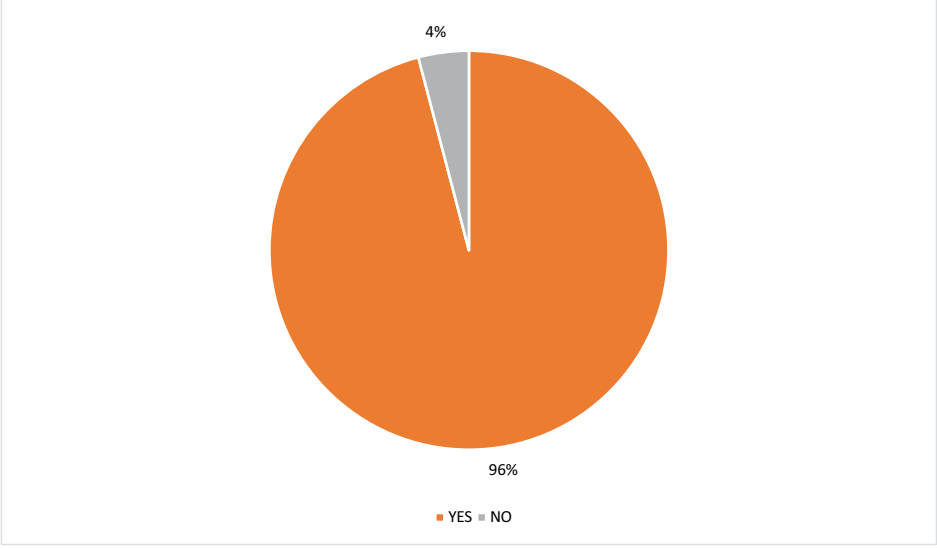
Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

The companies' business plans before the crisis included certain types of production improvements as part of their internal development strategies (Figure 12), but due to the health and economic crisis, investment plans were replaced with maintaining current liquidity, hygiene and health conditions in companies.

Benefits of digitalisation

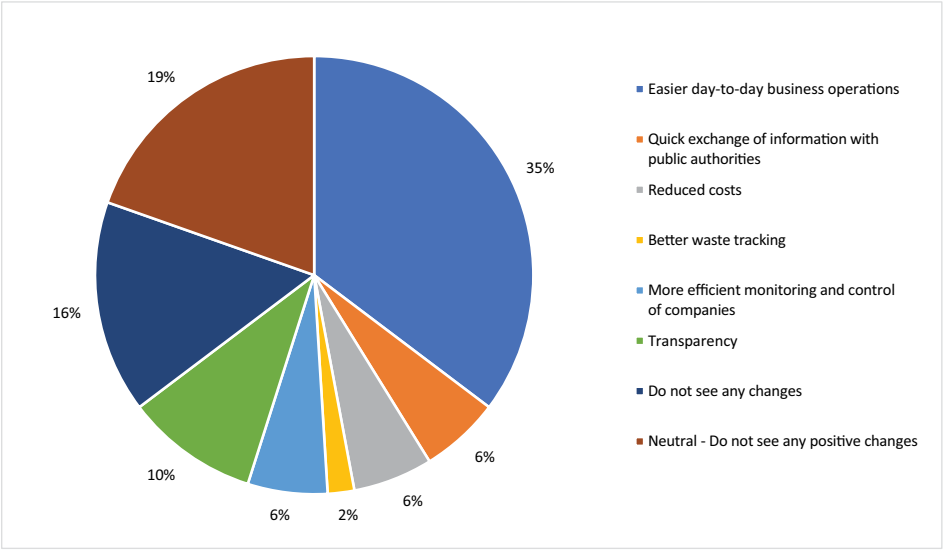
Asked whether digitalisation facilitated their business operations, 48% of companies answered affirmatively and only 2% negatively (Figure 9).

Figure 9: Impact of digitalisation on day-to-day business operations



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Figure 10: Impact of digitalisation on day-to-day business of companies including benefits



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Access to finances in the RS

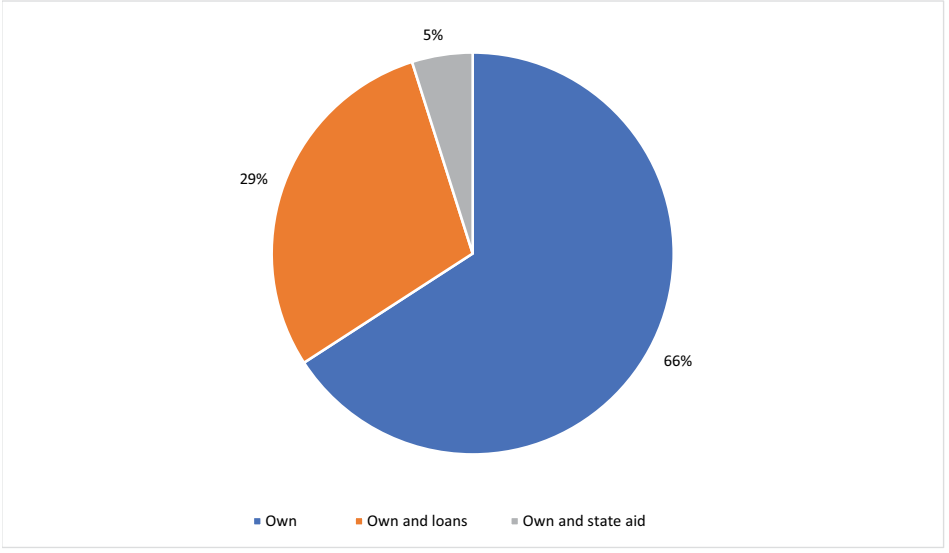
The answers to these questions show the willingness of companies to invest. Therefore, it is important to provide economic operators with the most appropriate financing models and promote clean technologies, which would reduce the pressure on the environment and resources, but also on the total operating costs of companies.

One of the key questions in the survey relates to access to finance. Serbia, unlike most European countries, still relies solely on commercial banks as a source of financing economic operators. Micro, small and medium-sized enterprises (MSMEs) as well as a large number of entrepreneurs make up the majority of economic operators. In addition to size, these enterprises differ in age, phase of business development, type of activity, volume, industrial sector, etc. This diversity of companies implies different financial needs of MSMEs such as: types of financing, amounts, duration of repayment, security requirements and repayment schedules.

The diversity of available financial instruments and sources of financing must be among top priorities in order to improve the economic environment. It is especially important in cases where the main financing of economy operators is provided by banks. This is best reflected in the lack of financing for the companies that have completed the initial phase of business and need finances for the next phase (the phase of further growth) as well as the lack of financing for micro and small enterprises. In the Serbian financial sector, banks participate with over 92%, while in Europe, according to the European Commission, the share of banks in the financial sector is 70%.

Banks do not respond to demands for "small" loans. Banks assess the risk of investments in the micro and small enterprises sector as too high; administration costs are high compared to the small loan amounts, and only a few banks have in their financial portfolio a programme intended for companies operating up to 24 months. Economic operators state that the main obstacles to obtaining a loan are: complicated administrative procedures and applications for financing, high interest rates not adjusted to real possibilities and needs, inappropriate and short repayment terms, a gap between real demand and available supply on the market, a limited number of alternative financing options, expensive bank guarantees, security instruments, loan amounts and many other.

Figure 11: Sources of financing



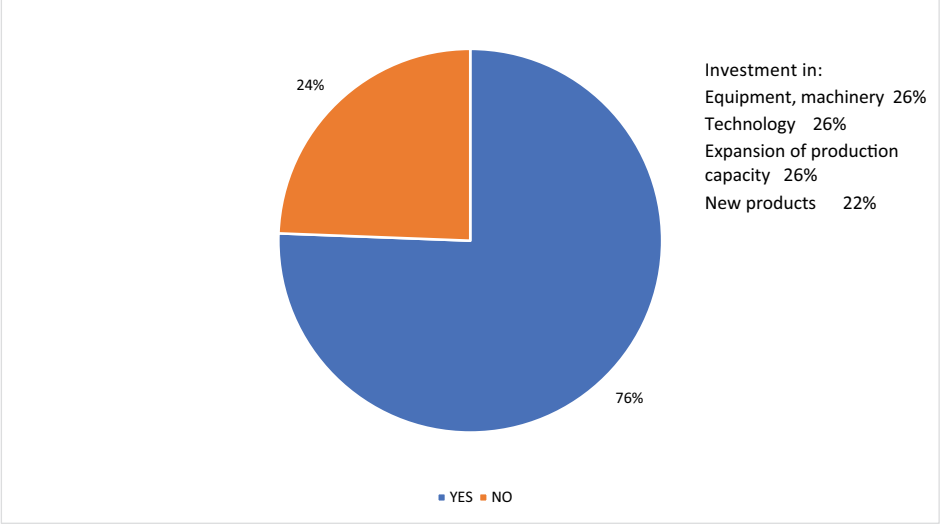
Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Special attention should be paid to the possibility of financing innovative and technologically advanced MSMEs because, due to their specific characteristics, they should not be considered on the same level with traditional industries.

It is interesting to mention the possibilities of microfinance as part of the measures of support to economic operators in response to the challenges caused by the COVID-19 pandemic. According to the Albanian Microfinance Association, microfinance was rather extensive during the crisis. At that time, there were almost twice as many clients than previously in the banking system, and as many as 40,000 loans were granted.

It is assessed that relaxing the financial system would open the market for social investors and that, in this way, between 40-60 million euros of direct investment would enter Serbia. An important contribution to attracting capital would be the cooperation with international financial institutions, which, along with the creation of appropriate guarantee schemes, would facilitate the granting of favourable loans to economic operators, especially small businesses.

Figure 12: Investments of companies planned before the crisis

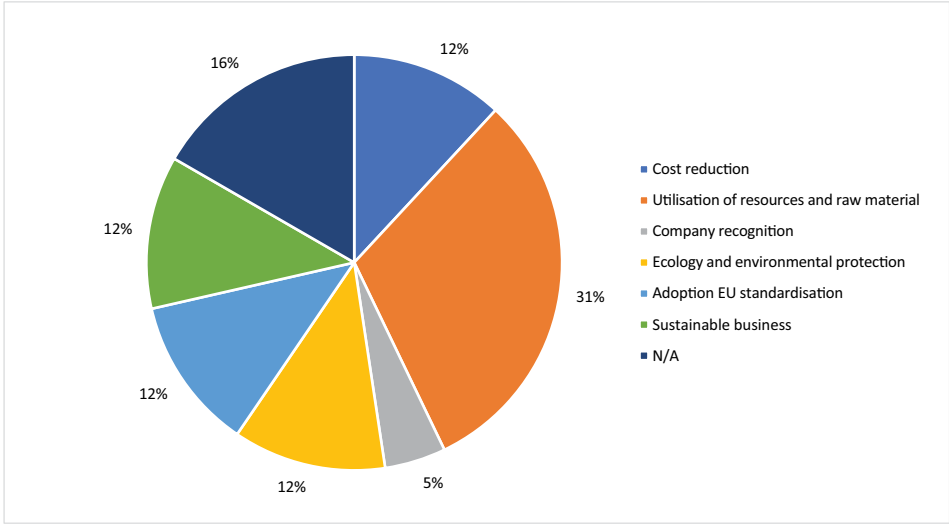


Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Qualitative assessment of potentials that influence the transition to a CE business model

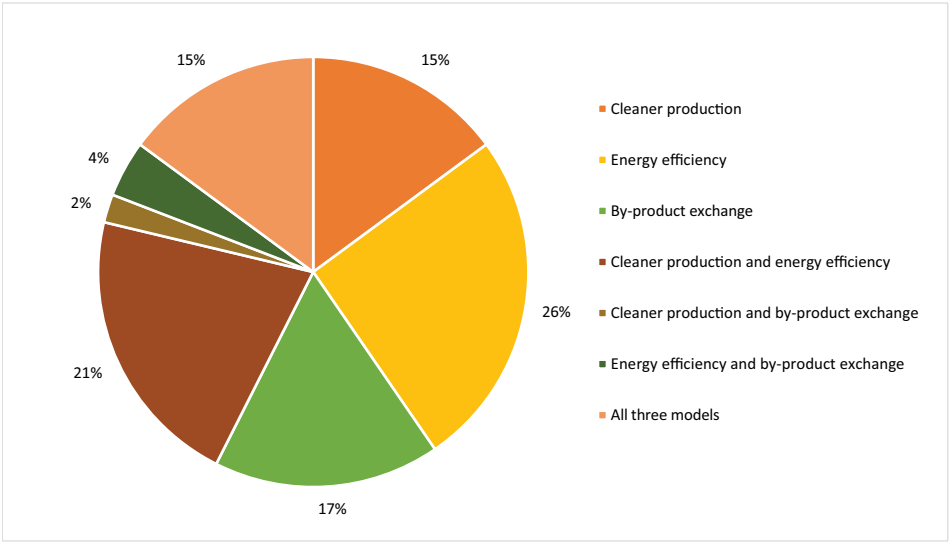
We asked the companies about their motives for shifting to a CE model and which of the offered business models they would introduce into their business: clean production, energy efficiency, by-product exchange or a combination of clean production and energy efficiency or clean production and by-product exchange. A statistical overview of the responses is shown in Figures 13 and 14.

Figure 13: Motives of companies for shifting to CE models



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

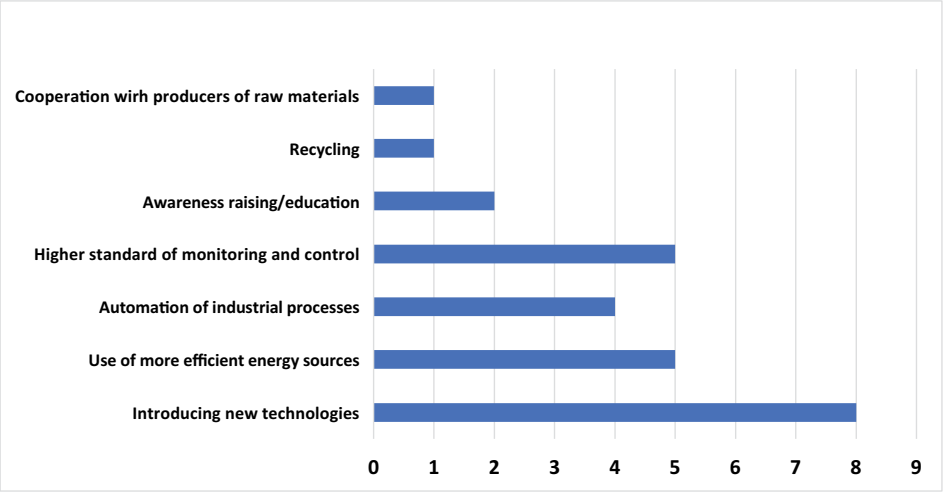
Figure 14: Business models that companies would introduce



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Asked whether they had calculated scrap and energy efficiency costs, 67% of companies answered in the affirmative and 33% in the negative. We also asked the companies whether they had calculated CO_2 emissions during production, and got the same percentages: 67% did these calculations and 33% did not. This confirmed to us that the companies were aware of the need to improve business with the aim of reducing pollution in production processes.

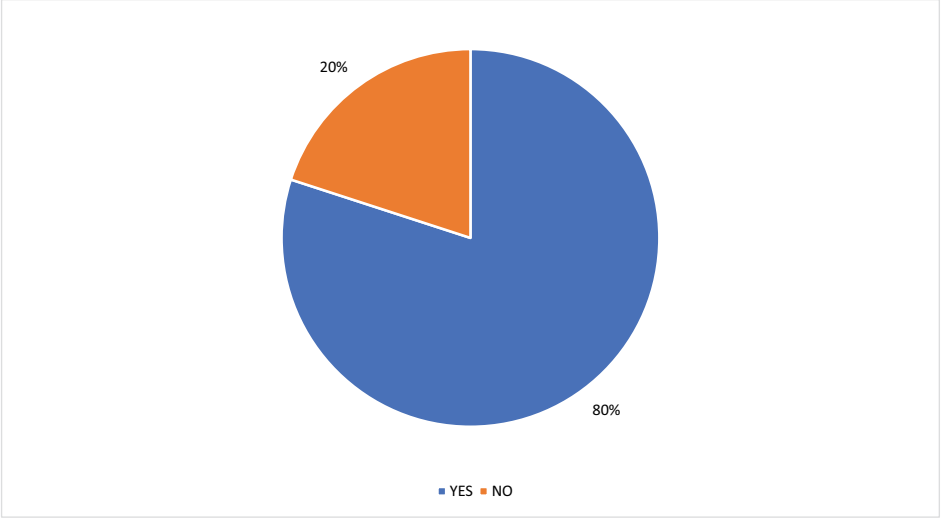
Figure 15 – Methods considered by companies to improve resource efficiency:



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Residue generation has allowed business cooperation with companies dealing with industrial waste management and those dealing with its disposal (Figure 16).

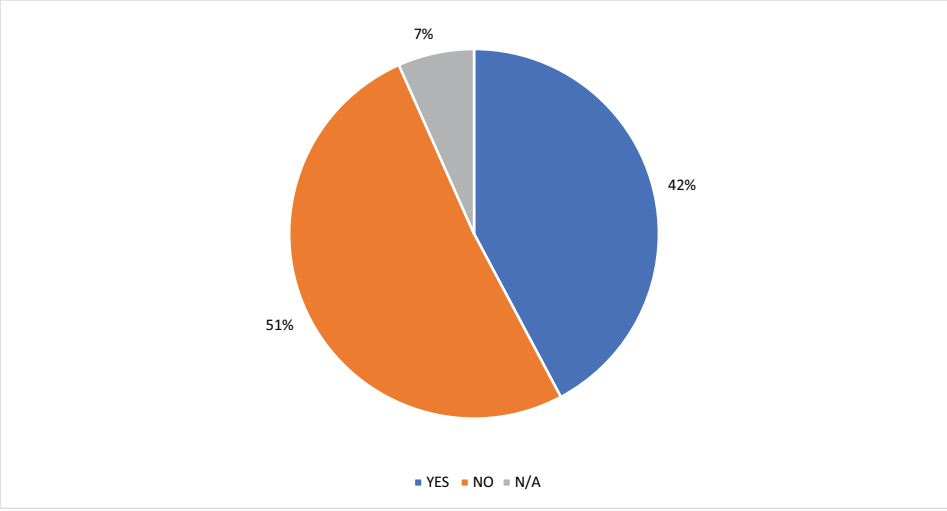
Figure 16: Share of companies engaged in by-product cooperation



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

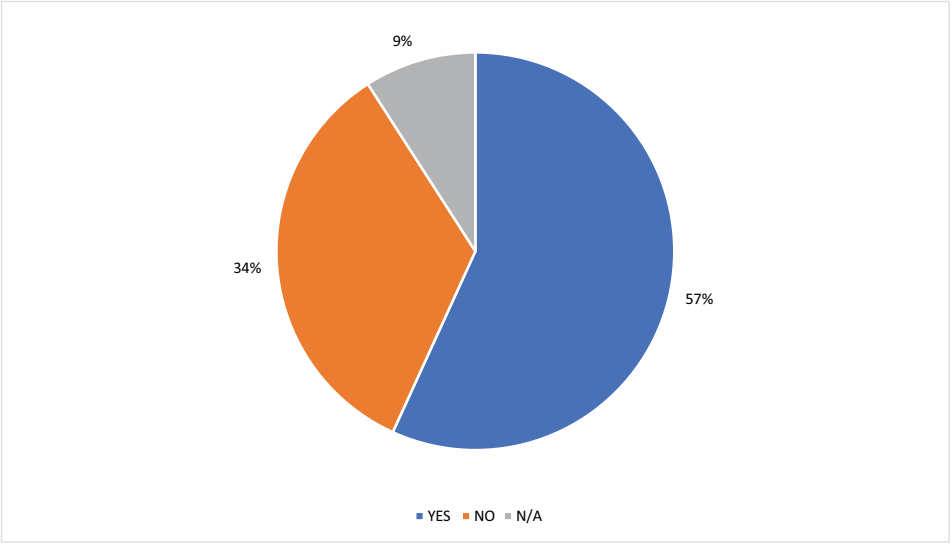
Although the graphical presentation of obtained data shows that the option of product returns and the principle of extended producer responsibility have been established in Serbia, when asked how the product return model was implemented, the companies implementing this model answered that the products were sent to the recycling process or further processed in accordance with legislation. The Law on Waste Management did not define the ways of applying the principle of extended producer responsibility, so it can be concluded with certainty that the companies are not aware of this obligation (Figures 17, 18, 19).

Figure 17: Product return



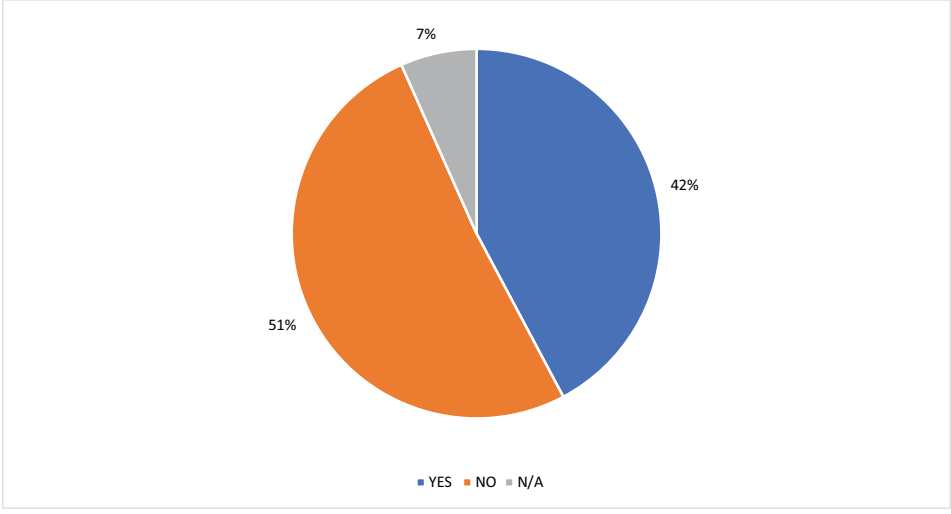
Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Figure 18: Implementing the principle of extended responsibility



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Figure 19: Producer awareness of end-of-life products



Source: A survey conducted by the Serbian Chamber of Commerce for the purpose of this analysis

Chapter IV

Recommendations for Government and Business Entities in Serbia

This section provides an overview about economic instruments aimed at supporting the transition to more circular business models. It gives a theoretical foundation of such economic incentives but also presents some of those initiatives proposed at the EU level, e.g., in the context of the Circular Economy Action Plan. Based on this analysis the chapter outlines some of the key barriers for businesses to become more circular, as well as recommendations on how to support SMEs in Serbia to overcome those barriers. Finally, the chapter gives a brief overview about EU finance available to Serbia for promotion of the circular economy.

Recommendations for Policy Makers to establish economic instruments for the promotion of the circular economy

The range of policy options aimed at supporting the transition to a circular economy can be broadly divided into three large groups:[67] **regulatory measures, voluntary measures and economic incentives.** Regulatory measures – or command-and-control measures – are the standard tools of environmental policy. They regulate activities that harm the environment by prescribing rules

67 See Behrens (2004), https://www.researchgate.net/publication/228766017_Environmental_policy_instruments_for_dematerialisation_of_the_European_Union

and standards. Examples include bans for using certain (toxic) resources, emission-reduction targets, waste reduction and recycling targets etc. They are usually enforced by means of fines or other penalties in cases of non-compliance. Voluntary instruments, on the other hand, are aimed at voluntary behavioural changes, e.g. through voluntary agreements or the provision of information and education. Two prominent examples in the EU are the EU energy label, which provides information to consumers about the energy performance of a product, as well as the EU Eco-Management and Audit Scheme (EMAS), a management instrument for companies to evaluate, report and improve their environmental performance. Other examples include environmental agreements negotiated with industry or public programmes in which companies can volunteer to participate. Voluntary instruments are the weakest form of government intervention; their effectiveness beyond business-as-usual is thus subject to ongoing debate.

The third group, economic instruments, aim at internalizing unaccounted and thus external environmental costs by affecting costs and benefits of alternative options. Generally identified with taxes, user charges, tradeable permits, refundable deposits or subsidies, economic instruments try to set economic incentives causing rational and self-interested economic agents to improve the environmental performance of their activities. Examples in the EU include the EU Emissions Trading System (EU ETS) and the new tax on non-recycled plastics packaging waste to be introduced in 2021. It is important to note, that achieving a large-scale industrial transformation in Serbia requires a mix of well-designed policy interventions which include economic instruments as well as the aforementioned regulatory and voluntary measures.

Commonly cited economic instruments aimed at supporting the transition to a circular economy's need include a reform of the subsidies system, ecological fiscal reform, certificates trading schemes, public procurement, and R&D support.

The reduction/phasing-out of environmentally harmful subsidies (EHS) in the context of a reform of the subsidies system is a key element of any policy mix aimed at supporting the transition towards a circular economy. Grants or tax reductions/exemptions that reduce the costs of environmentally harmful activities lead to

increased resource use, higher GHG emissions and generally higher levels of pollution than in their absence. They also distort markets to the disadvantage of environmentally sound technologies and products. They are particularly common in areas such as fossil fuels, transport and water. Examples include government support to coal, oil and gas, and fossil fuel-based electricity, the exemption of kerosene used in aviation from energy taxation, VAT tax exemption for international flights, diesel fuel tax concessions, tax allowances for commuters etc. In 2019, the European Commission estimated fossil fuel subsidies provided by EU governments at EUR 55 billion per year between 2014 and 2016. Other sources state even higher estimates at EUR 112 billion per year between 2014 and 2016.[68] In times of overstretched government budgets caused by costly recovery programmes in the context of the COVID-19 pandemic, a reform of the subsidy system is thus not just a question of environmental sustainability, but also of financial prudence and economic efficiency.

Apart from restructuring the subsidies system, an environmental fiscal reform policy requires the introduction of taxes and charges supporting the circular economy. Indeed, a shift from labour to natural resources as a tax base has long been advocated in the EU. This idea is based on the theory that increasing resource taxes will incentivize a reduction of their use and decreasing labour taxes will reduce unemployment as well as stimulate economic growth. Furthermore, a reduction in labour taxes can facilitate the transition to a circular economy by improving the competitiveness of labour-intensive activities, such as maintenance and repair of products, as well as R&D efforts. The idea is particularly relevant in the context of economic recovery programmes in the aftermath of the COVID-19 pandemic. In 2018, total environmental tax revenue in the EU amounted to EUR 324.6 billion, equivalent to 6.0% of total EU government revenue from taxes and social contributions. The vast majority of revenues from environmental taxes come from energy taxes (77.7%), followed by transport taxes (19.1%) and only 3.3% from pollution (mainly waste and water) and resources.[69] Taxes on natu-

68 https://www.odi.org/sites/odi.org.uk/files/resource-documents/12895.pdf

69 https://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_tax_statistics#:~:text=In%202018%2C%20the%20governments%20in,)%20(see%20Table%201).

ral resources (e.g. on the extraction, processing or consumption of raw materials) thus still play a negligible role in tax revenues and in steering resource consumption towards a circular economy. While the EU has no mandate on taxation issues, the European Commission has signalled its support to the broader application of environmental taxation, including landfill and incineration taxes.[70]

An environmental fiscal reform should also include tax incentives for circular products and services. For example, reduced VAT rates for circular goods, including secondary raw materials and recycling activities, have been introduced in numerous countries, amongst others in Belgium, Ireland, Poland and Sweden.[71] The circular economy will further benefit if reduced VAT rates for secondary raw materials are coupled with tax penalties for primary raw materials, as introduced in China. This will help create a level playing field between primary and secondary raw materials.

Similar economic incentives also need to be considered in the context of the green post COVID-19 recovery, by linking public grants or loans to investments in clean, low-carbon and circular products. Examples of such investments include energy efficient renovation, the procurement of electric vehicles for company vehicle fleets, or minimum recycled content requirements for products acquired with public money.

Environmental taxes intervene in market systems by attaching a price to environmental goods or services. Another possibility is to limit the quantity of allowable pollution or resource use. Generally referred to as certificates, the aim of permits, rights or quotas is to create marketable property rights for the use of environmental goods and services that would otherwise not be marketable. Public authorities can create markets for environmental 'bads' by limiting environmental harm of economic activity (e.g. GHG emissions, resource use etc.) to some agreed quantity and distributing that limit over tradeable certificates. Thus the name 'cap and trade' systems. Producers of environmental 'bads' are required to own or purchase

70 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

71 https://www.ceps.eu/ceps-publications/role-business-circular-economy-markets-processes-and-enabling-policies/

a quantity of certificates corresponding to their environmental use. Such a system has been successfully introduced in the EU with the EU Emissions Trading System (EU ETS). However, certificates have also been proposed in the form of material input (MI) certificates for limiting resource consumption. In such a system, MI-certificates would constitute a permission to displace a certain quantity of primary natural resources.

An often-neglected instrument to support the circular economy is public procurement. Public purchases of services, works and supplies within the EU account for around € 2,000 billion annually or about 14% of the EU's GDP.[72] These figures emphasize the leading role that green public procurement (GPP) can play in creating demand for products with a reduced environmental impact throughout their life cycle. The European Commission is thus proposing minimum mandatory GPP criteria and targets in sectoral legislation and phase in compulsory reporting to monitor the update of GPP for public buyers.[73] Currently, however, GPP in the EU and the related GPP criteria developed by the European Commission remain voluntary. It is thus up to member states to determine their approach towards GPP and to include circular economy principles in their procurement. An ambitious and strategic approach by public authorities is recommended to develop and support local companies supplying circular products.

Finally, governments can promote circular innovations by initiating or supporting research and innovation programmes, including financial support to innovative SMEs. For example, through its Horizon Europe research programme, the European Commission supports the development of indicators and data, novel materials and products, substitution and elimination of hazardous substances based on a "safe by design" approach, circular business models, and new production and recycling technologies, including exploring the potential of chemical recycling, keeping in mind the role of digital tools to achieve circular objectives.[74]

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72 https://ec.europa.eu/growth/single-market/public-procurement_en

73 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

74 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

Recommendations for business entities in Serbia

The reasons for companies to introduce circular business models include **cost savings, mitigating price volatility associated with virgin materials, higher innovation and employment potentials, as well as reduced liabilities and warranty costs due to longer-lasting, healthier and more environmentally friendly products**.[75] For example, the most pronounced cost savings potential was found in the automotive sector, followed by the machinery and equipment sector, and electrical machinery.[76]

While the capacities of larger firms facilitate the adoption of and realization of benefits from circular business models, also small and medium-sized enterprises (SMEs) are increasingly aware of the benefits of closing loops and improving resource efficiency: saving material costs, creating competitive advantages and new markets are among the main reasons for European SMEs to take action. In a survey amongst European SMEs, more than two-thirds are satisfied with the return on their investments in resource efficiency improvements and more than one third have experienced reductions in their production costs.[77]

However, a number of barriers pose formidable challenges to SMEs in transitioning towards a circular economy. These barriers originate from the SME enabling environment, such as culture and policy-making, from the value chain in which an SME operates, such as behaviour of suppliers, and from lack of technical skills and finance. SMEs often lack familiarity with circular economy business opportunities, and many small businesses do not see 'being green' as a priority. This does not mean that they are against greening their business, but rather that their main focus is on their core business operation. Greening their operations becomes interesting when it supports their core business.

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75 https://www.ceps.eu/download/publication/?id=9071&pdf=WD412%20GreenEconet%20SMEs%20Circular%20Economy.pdf

76 https://www.ellenmacarthurfoundation.org/publications/towards-a-circular-economy-business-rationale-for-an-accelerated-transition

77 https://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_381_sum_en.pdf

It is therefore crucial to use the language of cost effectiveness when convincing SMEs to join the circular economy. Some SMEs simply do not know that circular business models are available and could be beneficial. Furthermore, SMEs often simply respond to what is demanded by bigger companies in the value chain (for example, a car manufacturer that decides to only purchase parts if they were produced in a 'green' way), or increasingly also to the requirements associated with green public procurement (GPP). A successful green recovery promoting circular business models will thus need to include elements of information, education and training for SMEs to understand the benefits of the circular economy. Governments and business associations need to play a key role in this, however, also SMEs themselves will need to connect with each other sharing best practices as well as learning from mistakes to avoid.

In addition, even where SMEs have taken an active decision in favour of a circular business model, a lack of upfront finance is a significant barrier to its implementation. While crowdfunding campaigns may be a successful option to raise finance (with the additional benefit of increasing awareness about company and products), SMEs need guidance in finding suitable financial sources offered by the public sector – not only in the context of a green post COVID-19 recovery. Business associations need to play an important role in identifying public finance and in helping SMEs to access it.

More generally, business entities in Serbia need to ensure that policy-makers understand the problems and challenges faced by SMEs, and to convince policy-makers to increase policy and financial support towards providing solutions sought by SMEs. In addition, a clear and understandable (for SME management and employees) communication is required on the regional level so that SMEs know what the challenges could be and where to turn to solve these problems. This should include facilitating and encouraging SMEs to set up regional or local networks and working groups to develop joint problem articulation, understanding and resolution. The need to collaborate within a circular economy must be reflected in new alliances between businesses, across the supply chain and between

the private and the public sector. Most importantly, however, SMEs need customers to be willing to pay for green and circular products and services. This could be facilitated by policy support (e.g. tax rebates for buying certain green services and products), green public procurement and large companies supporting green and circular SMEs as their suppliers.

EU finance available to Serbia promoting CE

Since EU finance is currently in transition to a new Multiannual Financial Framework (MFF) and also to the new IPA III, both starting in 2021, many elements of EU finance in the context of a post COVID-19 economic recovery in Serbia have not yet been spelled out in detail. The same applies to the announced Economic and Investment Plan for the Western Balkans, the concrete arrangements of which was planned to be tabled by the European Commission during autumn 2020.

The Economic and Investment Plan for the Western Balkans, announced shortly after the EU-Western Balkans Summit on 6 May 2020, will guide EU finance and long-term recovery over the coming years. It will focus mainly on infrastructure investments following a corridor approach. The Commission considers transport, energy, and digital connectivity key to the economic integration of the Western Balkans region and with the EU. The EU is thus likely to continue supporting energy projects to meet the 2030 energy and climate targets, with emphasis also on energy market integration, decarbonization (renewable energy sources, hydropower) and just transition. Gas infrastructure should serve sectors that are difficult to decarbonize through direct electrification and provide an opportunity for diversification. While the focus of the Plan will be on infrastructure, there are likely to be some elements on wastewater treatment and also on solid waste management. However, it currently seems unlikely that the Plan will contain a substantial focus on circular economy.

Between the years 2000 and 2018, the EU spent EUR 402 million on projects in environmental protection in Serbia. Including Serbian investments of EUR 196

million, the total amount of investments in this area amounted to EUR 598 million. This amount was mainly spent on the construction of wastewater facilities (41.3%). Other prominent domains include waste management (13.3%), water protection and supply (12.5%) and industrial pollution and risk management (12.3%).[78] Promotion of the circular economy was mainly supported through policy dialogue with Serbian authorities, civil society and IFIs. The EU also supports – and funded – the new Waste Strategy and Action Plan. Support to key sectors for the transition has been provided mainly through support to legislation alignment, capacity building of Serbian authorities, and promotion to media and civil society. In addition, the EU supports innovative SMEs through the Innovation Fund, although not many proposals have dealt with environmental issues so far.

The main source of EU finance in the future will be the Instrument for Pre-Accession III (IPA III), which will be the financial tool for implementing the abovementioned Economic and Investment Plan for the Western Balkans. The IPA III programming framework is yet to be published, which was expected to happen in autumn 2020. The European Council has allocated a total of EUR 12.565 billion for the 7-year period 2021-2027. The beneficiaries for IPA funding are mainly expected to be the Western Balkan 6. It is unlikely that there will be a major change in the priority sectors of financial assistance from IPA II to IPA III. In line with the Economic and Investment Plan, IPA III is thus likely to continue funding projects on environment and climate action, including better treatment of waste and water, as well as increased energy efficiency and use of renewables.

Serbia has already proposed several projects for the first two years of IPA III, namely IPA 2021 and 2022. Only one of these proposals is directly linked to the adoption of circular economy principles in communities and companies. The first component of the proposed project deals with communities and aims to develop local roadmaps in five selected communities that later can be used as a model for other communities with similar characteristics. The second component of the pro-

78 http://socijalnoukljucivanje.gov.rs/en/over-eur400-million-for-the-environment/

posed project aims to help companies recognize the potential of circular business models, including through the optimization of the production process, material and energy savings, substitution of toxic chemicals, etc. Both components have the general goal of promoting the transition from the linear to a circular economy as a sustainable development model for Serbia. It should be noted, however, that it currently is too early to say whether the project will receive an EU grant.

Given the potential role that the circular economy could play in the economic recovery of Serbia, it would be recommendable for Serbia to develop more circular economy related projects under IPA III. Currently only one such project is envisaged, the size of which is rather small. More projects in areas such as circular economy, decarbonization, renewable energy sources – including for businesses and SMEs – should be developed and proposed to the EU for funding.

In a "Team Europe" approach, the European Commission's COVID-19 relief packages and long-term strategic development goals for the Western Balkans region are also supported by the European Investment Bank (EIB). One the one hand, the EU bank is part of the EU support package for the Western Balkans worth EUR 3.3 billion. National healthcare sectors and SMEs will be the immediate beneficiaries of the EU support package. On the other hand, the EIB continues to build up a pipeline of projects in the region, currently estimated at EUR 2.3 billion.[79] While most of the past EIB financing in Serbia focused on the transport sector, the bank has a strong focus on SMEs[80] and environmental protection. This source should thus be further explored by Serbian stakeholders in the transition to a more circular economy.

79 https://www.eib.org/en/press/all/2020-111-eib-group-to-contribute-eur1-7-billion-to-the-eu-s-covid-19-response-package-for-the-western-balkans

80 https://www.eib.org/en/about/priorities/sme/index.htm

Chapter V

Three scenarios for Serbia

Serbia is lagging behind in technology and uses obsolete production models, and therefore the model of sustainable business and the green economy are the only possibilities for a healthy economic recovery. In order for this transition to be successful, it is necessary to mobilise leading experts and professionals dealing with the Serbian economy who, in coordination with the companies recognised as change agents, would revise the regulatory framework to allow green investments. During this transition process, it is necessary to establish cooperation of all participants, at different levels, who would use their experience and knowledge to help initiate fundamental and substantial changes.

Three assumptions or scenarios for the transition to CE are designed to assess the macroeconomic, environmental and social impact of the transition to CE. These scenarios differ depending on institutional organisation and change leader during the transition. Thus, the process of transition to CE can be led by:

1. Executive authority – top-down
2. Economic operators – bottom-up or
3. Executive authority and economic operators jointly through synchronised activities.

Scenario 1: Top-down

If the process of change is started only by the action of the government, as the leader of change in line with the top-down approach[81], there will be a time gap and unrealistic expectations by economic operators with respect to the adoption of new measures. Due to the relatively frequent changes of administration and government, the transition process may be subject to politicisation that would lead to a slow and unsynchronised transition. If the transition process is led by only one institution, there will be no rapid progress, because the transition will be carried out at the pace of the government through the implementation of the Industrial Policy Strategy of the Republic of Serbia, which is the responsibility of the Ministry of Economy. In this case, there may be a separate consideration of the established goals of industrial development based on innovation and technological processes of shifting from linear to circular industry, through the proposed measures for the action plan that will be implemented within the deadlines. The fact that the public waste management policy falls in the purview of another ministry (Ministry of Environmental Protection) may lead to inconsistencies in the planning of deadlines according to the Government Activity Plan. If the measures for the transition to CE are implemented on the basis of individual sectoral regulations, there may be a vacuum and legal gaps in implementation, as well as delays in the process, due to which the positive effects of sustainable business will not be clearly visible. This model of transition can be applied in developed democratic societies in which the economy does not face the existential issues of current liquidity, as is the case in Serbia. Due to all the above, we believe that this scenario of transitional changes would not be acceptable for the Republic of Serbia.

81 See Table in the section Recommendations.

Scenario 2: Bottom-up

The second, bottom-up scenario, which would be initiated by economic operators, would also encounter barriers on the path to full implementation. Problems arise due to substantial differences in planning and procedures of economic operators and decision makers. In addition, economic operators lack understanding for lengthy processes and slow administrative reforms that adversely affect business investment plans. Also, one should keep in mind differences in the economic power of companies as well as their interests. Multinational companies operating in Serbia have a strong interest in full compliance with standards and processes that are common in the European market. Their interests are often in conflict with the interests of companies in Serbia, especially if we take into account the number and economic power of micro and small enterprises that are struggling to survive in the market.

The experience of the Republic of Slovenia, which entered the transition led by economic operators, without the full support of the authorities, shows that the process of transition was slowed down (which resulted in lagging behind) until the moment when the Government of Slovenia provided the necessary support.

Scenario 3: Teamwork

Teamwork is the only acceptable solution for the Republic of Serbia because all actors need to have the knowledge necessary for the process of transition from linear to circular economy. It should also be noted that the same CE business models cannot be applied in all sectors, nor is the process of industrial integration the same for all sectors. Therefore, we believe that only a joint approach and an open dialogue between economic operators and the executive authorities can bring measurable changes and progress in the process of transition to sustainable production, which will lead to progress in the fight against climate change.

Chapter VII (Recommendations) proposes the action plan of transition, which can be implemented only through Scenario 3.

Companies identified as leaders of change towards sustainable production in the Republic of Serbia

Companies were identified based on the responses given in the survey and through direct interviews conducted for the purpose of this report. Table 7 below provides an overview of the surveyed companies that meet the criteria for the application of CE tools and business development policies. In their business strategies, these representative companies show interest in applying CE tools in their production processes to reduce production costs and increase competitiveness. They also point out that substantial changes require an improved regulatory and financial framework for business, as stated in the Gap Analysis Recommendations.

The development strategies of these companies include plans for the transition to sustainable business. Their motives are different: some have foreign initial capital, some are closely connected with the European market, and some have high ambitions to enter new markets and increase the quality of their products. This report encourages companies to boldly embark on change processes in their business and production processes.

The goals of the GAP analysis are: to encourage and motivate companies to continue the initiated activities of the implementation of circularity, to advocate public policies for green transition through business associations, to adopt low-carbon and sustainable resource production and corporate social responsibility. Decision makers are responsible for creating a predictable and investment-stimulating environment, which will lead to GDP growth, improving the quality of life of citizens and the development of companies.

Table 7: Identified leaders of the transition to CE

	Primary indicators for identifying companies with the potential for the transition to a CE model in the Republic of Serbia						
Name of company	Origin of raw materials	Method of production and energy management	Logistics, optimisation of transport	Environmental impact of product/service design	Impact on local community and sustainability	End-of-life product solutions	Use of voluntary tools (standards and tools of cleaner production)
ALPHA PLAM AD, Vranje	+	+	+	+	+	+	+
INTERCORD DOO, Subotica	+	+	+	+	+	+	+
ALU holding DOO, Niš	+	+	+	+	+	+	+
ATB SEVER DOO, Subotica	+	+	+	+	+	+	+
ATLANTIC GRUPA – ATLANTIC ŠTARK DOO	+	+	+	+	+	+	+
AVISTA OIL, Grocka		+	+	+	+	+	+
DELHAIZE SERBIA DOO, Beograd		+	+	+	+	+	+
ELIXIR group DOO, Šabac	+	+	+	+	+	+	+

	Primary indicators for identifying companies with the potential for the transition to a CE model in the Republic of Serbia						
Name of company	Origin of raw materials	Method of production and energy management	Logistics, optimisation of transport	Environmental impact of product/service design	Impact on local community and sustainability	End-of-life product solutions	Use of voluntary tools (standards and tools of cleaner production)
ESO TRON DOO, Novi Sad	+	+	+	+	+	+	+
FEPLO DOO, Čačak	+	+	+	+	+	+	+
FIMA DOO, Mionica	+	+	+	+	+	+	+
GOOD MARK DOO, Šabac	+	+	+	+	+	+	+
GRAMMER SYSTEM d.o.o. Aleksinac	+	+	+	+	+	+	+
Hemofarm AD, Vršac	+	+	+	+	+	+	+
KEMIS DOO, Valjevo			+	+	+	+	+
Knjaz Miloš AD, Vrnjačka Banja	+	+	+	+	+	+	+

	Primary indicators for identifying companies with the potential for the transition to a CE model in the Republic of Serbia						
Name of company	Origin of raw materials	Method of production and energy management	Logistics, optimisation of transport	Environmental impact of product/service design	Impact on local community and sustainability	End-of-life product solutions	Use of voluntary tools (standards and tools of cleaner production)
LEONI Wiring Systems Southeast d.o.o. Prokuplje	+	+	+	+	+	+	+
LESCOBAGS DOO, Leskovac	+	+	+	+	+	+	+
LOHR DOO, Bačka Topola	+	+	+	+	+	+	+
MILSA DOO Niš		+	+	+	+	+	+
NEOPLANTA DOO, Novi Sad	+	+	+	+	+	+	+
POLIPAK DOO, Batočina	+	+	+	+	+	+	+
PWW DOO Leskovac		+	+	+	+		+
REMONDIS Medison doo, Zrenjanin	+	+	+	+	+	+	+

	Primary indicators for identifying companies with the potential for the transition to a CE model in the Republic of Serbia						
Name of company	Origin of raw materials	Method of production and energy management	Logistics, optimisation of transport	Environmental impact of product/service design	Impact on local community and sustainability	End-of-life product solutions	Use of voluntary tools (standards and tools of cleaner production)
RIBELLA FOODS DOO, Bački jarak	+	+	+	+	+	+	+
T.P.T. D COMPANY DOO, Babušnica	+	+	+	+	+	+	+
TIGAR TYRES AD, Pirot	+	+	+	+	+	+	+
TRAYAL korporacija, AD Kruševac	+	+	+	+	+	+	+
UDRUŽENJE SECPA					+	+	
Valjaonica bakra SEVOJNO AD, Užice	+	+	+	+	+	+	+
VIKTORIA consulting DOO, Beograd				+	+	+	+
ZIJIN BOR COPPER, DOO, Bor	+	+	+	+	+	+	+

Chapter VI

Overview of EU Sectoral Chapters Relevant to the Serbian Context

This section provides an overview of challenges and policy developments in four sectors that are crucial for the transition to a circular economy. These sectors have also been identified as priority sectors in the Serbian Circular Economy Roadmap. They include the manufacturing industry, food and agriculture, packaging and plastics, and the construction industry. These sectors were selected as priority sectors in the Roadmap based on factors such as data availability and the possibility to create value chains. They are also included in the list of key product value chains in the EU Circular Economy Roadmap. This section thus provides information about ongoing and planned initiatives regarding these sectors on the EU level and reflects the sectoral recommendations of the Serbian Circular Economy Roadmap aimed at supporting the transition to a circular economy in these priority sectors.

Manufacturing Industry

The manufacturing industry is crucial both to the Serbian economy and also for the transition to a circular economy. Manufacturing contributed 15.6% to the Serbian GDP in 2019, or approximately USD 6.56 billion. Key manufacturing industries are food and beverages (22.9% of manufacturing value-added), fabricated metal products (11.2%), chemicals and chemical products (8.5%), rubber and plastics products (8.4%), as well as coke, refined petroleum products, nuclear fuel

(7.1%).[82] In addition, manufacturing in Serbia is the industry with the highest export potential.

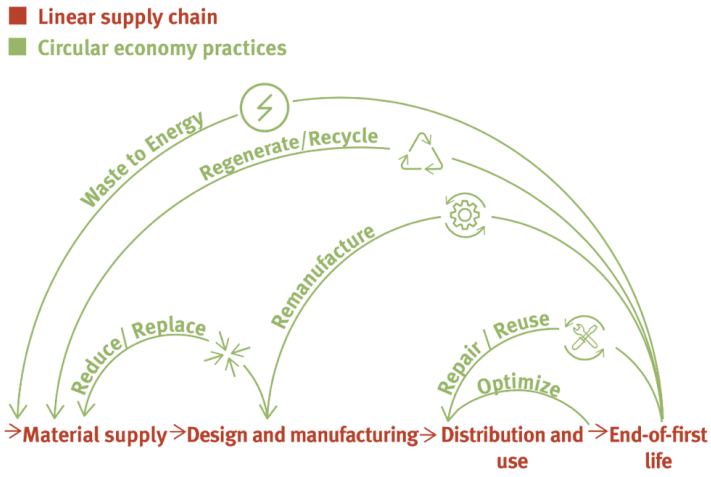
Current patterns in the manufacturing industry are largely linear. This means that primary natural resources are extracted and processed into new products, which are sold and used, and later discarded as waste and/or emissions back into the environment. This linear pattern is resource and energy intensive, and also responsible for large amounts of greenhouse gas and other harmful emissions into the environment.

The widespread prevalence of the linear system also means that there is a large potential for circular economy business models with improved environmental performance at lower costs to industry and SMEs. Investments are particularly required in the circular design of products, the introduction of technologies and tools to retrieve used products and to return them to the production chain for upgrades or remanufacturing, and the use of eco-friendly and more resilient materials.

The future of the manufacturing industry in the context of a circular economy has been depicted by UNIDO in the figure below. At the heart of this approach is the goal to reduce natural resource consumption and waste generation. Circular manufacturing aims to recover and restore products, components, and materials through strategies like repairing, reusing, refurbishing, remanufacturing, reducing and replacing. Only as a last resort are materials recycled or used as a source of energy. In addition, circular manufacturing emphasizes industrial energy efficiency and the use of renewable energy sources for productive uses.

82 https://stat.unido.org/country-profile/economics/SRB

Figure 22: Manufacturing processes in a circular economy



Source: UNIDO (2020)[83]

Since 80% of the environmental impacts of a product are determined in the design phase,[84] a circular economy will not be possible without improved product design. Many products are currently designed for single use. While there exist some EU initiatives and legislation addressing sustainability aspects of products (e.g. Ecodesign Directive, EU Ecolabel, EU Green Public Procurement Criteria), there is currently no comprehensive set of requirements to ensure that products placed on the EU market are sustainable and circular. The European Commission will thus propose a sustainable product policy initiative in 2021, as part of the new EU Circular Economy Action Plan published in March 2020.[85]

At the heart of this initiative will be the extension of the Ecodesign Directive beyond energy-related products, in order to include circular principles in a broad range of products. This initiative will also be a tool to establish sustainability prin-

83 https://www.unido.org/sites/default/files/files/2020-02/IRE%20and%20Circular%20Economy_0.pdf

84 https://www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy

85 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN

ciples to improve product durability, reusability, upgradability and reparability, as well as to enable remanufacturing and high-quality recycling. Phasing out hazardous chemicals and increasing recycled content in products will also be a priority, while restricting single-use and countering premature (or planned) obsolescence. New business models, where producers keep the ownership of the product or the responsibility for its performance throughout its lifecycle will be incentivized, including product-as-a-service models. Priority for these measures will be on the product groups identified as "key product value chains" in the CE Action Plan, including electronics, ICT, textiles, furniture and high impact intermediary products such as steel, cement and chemicals.

In addition, the Commission plans to enable circularity in production processes by further strengthening regulation on pollutant emissions from industrial installations (as of 2021), by facilitating industrial symbiosis (2022), and by supporting the sustainable and circular bio-based sector. Digital technologies play an important role in all these initiatives, particularly regarding monitoring and reporting of company performance, but also in providing relevant information about products and resources.

The Circular Economy Roadmap of Serbia includes a specific focus on the textile industry in its overview of the manufacturing sector. In this context, it is important to note that there is also a specific focus on the textile industry in the EU's Circular Economy Action Plan. In 2021, the European Commission will propose an EU Strategy for Textiles aimed at boosting the EU market for sustainable and circular textiles, including through more textile reuse, addressing fast fashion, and driving new business models in the sector. These measures may also offer an opportunity for the Serbian base textile industry to restructure and recover in the future, and in particular for SMEs which traditionally dominate the sector.

Many of the initiatives announced for the manufacturing sector in the EU Circular Economy Action Plan are also mirrored in the Serbian Circular Economy Roadmap. This Roadmap recommends first an analysis of the manufacturing industry and to prioritize those sectors where circular impacts can be achieved

at lowest cost. It also specifically advocates a tax policy in Serbia which penalizes the use of resources and rewards circular business models. Companies, particularly SMEs, should further be supported by promoting training aimed at conveying specific skills required for the transition to circular business models, as well as by providing guidelines on these circular business models and on the creation of supportive business partnerships and networks. These partnerships are not only important between businesses, but also between academia and the manufacturing industry in order to encourage research, development and innovation. To enable proper management of materials in industrial processes, the Roadmap recommends the tracking, tracing and mapping of materials through the introduction of a monitoring system.

Food and Agriculture

Similar to the manufacturing sector, current agricultural practices are based on the linear "take-make-dispose" model, taking a large toll on natural capital and biodiversity. For example, in the famous concept of "planetary boundaries" presented by Steffen et al. (2015),[86] the large-scale use of fertilizers based on nitrogen and phosphorus in agriculture is responsible for the transgression of the planetary boundary of "biochemical flows", contributing to the eutrophication of aquatic ecosystems and associated biodiversity loss. In addition, fossil fuels continue to play a dominant role in fertilizer production and energy use in agriculture, thus contributing to climate change. Other negative impacts of agriculture include rising pressure on water resources, land-use change, soil degradation and waste. In the EU, for example, some 20% of total food production is lost or wasted. In Serbia, it is estimated that some 250,000 tons of food are wasted every year,[87] consisting mostly of fruit and vegetables (30%), bakery products (20%), and chicken and fish.

86 https://science.sciencemag.org/content/347/6223/1259855

87 https://www.wwf.rs/?uNewsID=350492

With a more circular approach, agricultural practices will need to minimize external inputs for agricultural production, close nutrient loops and reduce negative environmental impacts by eliminating discharges (i.e. wastewater) and surface runoff.[88] According to the Ellen MacArthur Foundation, all biological materials that can safely re-enter the natural world, will eventually need to return their embedded nutrients to the environment.[89] The FAO identifies five major opportunities for the promotion of circular practices in agriculture: water reuse, recycling of irrigation water, precision agriculture (i.e. optimizing inputs according to actual crop needs), use of biofertilizers produced from organic wastes, and bioenergy produced from biofuels.[90]

The EU Circular Economy Action Plan[91] addresses the challenge of food, water and nutrients as one of the key product value chains for urgent, comprehensive and coordinated actions. It highlights the role of the European Bioeconomy Strategy and Action Plan in strengthening and scaling up bio-based sectors in the EU and proposes to follow this Strategy to ensure the sustainability of renewable bio-based materials. Similarly, the Action Plan refers to the forthcoming EU Farm-to-Fork Strategy, which will address the food value chain and propose a target on food waste reduction. Further measures will address the sustainability of food distribution and consumption, including an initiative to substitute single-use packaging, tableware and cutlery by reusable products in food services to be tabled by the European Commission in 2021. As regards water, the European Commission aims to facilitate water reuse and efficiency, inter alia, through the new Water Reuse Regulation, which will apply from 26 June 2023. Furthermore, the Commission intends to improve nutrient management and plans to review the directives on wastewater treatment and sewage sludge and to assess natural means of nutrient removal such as algae.

88 http://www.fao.org/land-water/overview/covid19/circular/en/

89 https://www.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail

90 http://www.fao.org/land-water/overview/covid19/circular/en/

91 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN

Improving and modernizing agriculture in Serbia should be prioritized, given that Serbia has excellent conditions for diverse agricultural production with significant export potentials. At the same time, Serbia needs to prevent food waste generation. This is an imperative not only from an economic and environmental point of view, but also from the social perspective in a country where 5.5% of the population lives with less than USD 1.90 per day.[92] In order to fight food waste, the Serbian Circular Economy Roadmap proposes to regulate the legal framework for food donations, including defining the responsibilities of donors and mediators in the food donation chain, regulating food donation to animals, regulating the registry of mediators and beneficiaries, and regulating VAT issues for donated food (i.e. incentivizing food donations over food destruction). Food donations should further be encouraged through awareness-raising activities, and through amending the regulations on food labelling and marketing which will allow selling and donating food after the expiry of the "best before" date. A requirement for increased food donations is the building up of sufficient food bank capacities around the country which will allow for the distribution of food to those in need. Food surplus management should further be supported by defining responsibilities and roles of donors and by establishing the manner of food surplus redistribution in different sectors.

The Serbian Circular Economy Roadmap further proposes strengthening circularity in the agricultural and food sectors by building and promoting a better relationship between the food industry and agriculture as the provider of the raw materials. This requires, amongst others, the building of appropriate value chains and the promotion of regional clusters and collectives. Strengthening economic and market connections between suppliers and producers can increase the productivity of companies operating in these sectors and will help to promote export-oriented organic production as an economic potential of Serbia.

92 https://data.worldbank.org/topic/poverty?locations=RS

Packaging and Plastics

Plastics and plastic packaging are lightweight, strong, durable and cheap and thus pose numerous benefits to industry and consumers. Yet, current linear practices in production, usage and disposal cause significant damage to the environment and human health. On a global scale, it is estimated that only 14% of plastics packaging are collected for recycling, while some 8 million tons of plastics leak into the oceans every year. This is not only of environmental concern but also constitutes a significant economic loss, given that the value of lost plastic packaging material amounts to USD 80-120 billion annually.[93] In addition, the accumulation of microplastics (typically smaller than 5mm) in animals and other abiotic sea products cause concerns for human health and wildlife. Between 69 and 81% of microplastics in the seas originate from the degradation of larger plastics. However, microplastics are also directly released into the oceans, e.g. via synthetic textiles, tire dust and city dust.[94] Humans absorb microplastics mainly through food (e.g. contaminated fish), air and drinking water.

In 2018, Europe produced some 61.8 million tons of plastics, constituting 17% of global production. Packaging and building & construction represent by far the largest end-use markets, with 40% and 20%, respectively.[95] A similar situation can be observed in Serbia, where in 2016 packaging accounted for 45.3% of total domestic plastics production, followed by plates, pipes and profiles (33%), construction (15%) and other plastics products (6.7%).[96] Addressing the production, use and disposal of single-use packaging is thus a key element in the transition to a circular economy in Serbia.

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93 https://www.ellenmacarthurfoundation.org/assets/downloads/The-New-Plastics-Economy-Rethinking-the-Future-of-Plastics.pdf

94 https://publications.jrc.ec.europa.eu/repository/bitstream/JRC110629/jrc110629_final.pdf

95 https://www.plasticseurope.org/application/files/1115/7236/4388/FINAL_web_version_Plastics_the_facts2019_14102019.pdf

96 https://www.rs.undp.org/content/dam/serbia/undp_rs_Vodic%20za%20jednokratnu%20plastiku.pdf

In order to address the issue of rising plastics waste in the EU, the European Commission in 2018 put forward an EU Strategy for Plastics in the Circular Economy.[97] This strategy covers the whole life-cycle of plastics with the aim to make them longer lasting, easier to reuse and recycle, and easier to collect. For example, the Commission plans to make all plastic packaging in the EU reusable or recyclable by 2030. Another target for 2030 is to significantly expand plastics recycling capacity with the aim to recycle more than half of the plastics waste generated in the EU. An essential element for success is the establishment of a market for recycled and innovative plastics, as well as a better integration of the plastics value chain – including the chemical industry.

As part of the Plastics Strategy, the European Commission committed to determining the scope of a legislative initiative on single-use plastics at the EU level. The resulting Directive "on the reduction of the impact of certain plastic products on the environment",[98] which was adopted in June 2019, is particularly well known for its ban of numerous single-use products made of plastics, including cotton bud sticks, cutlery, plates, straws, stirrers, sticks for balloons, as well as cups, food and beverage containers made of expanded polystyrene and on all products made of oxo-degradable plastic. The products will be prohibited from being placed on the EU market as of July 2021. The Directive also introduces measures to reduce consumption of food containers and beverage cups made of plastic and Extended Producer Responsibility schemes applied to products such as tobacco filters and fishing gear. Specific targets set in the Directive include a 90% separate collection target for plastic bottles by 2029 (77% by 2025) and a target to incorporate 25% of recycled plastic in PET bottles as of 2025 and 30% in all plastic bottles as of 2030.

The use of lightweight plastic carrier bags has already been regulated at the EU-level in 2015, with a Directive[99] requesting members states to take measures to

97 https://eur-lex.europa.eu/resource.html?uri=cellar:2df5d1d2-fac7-11e7-b8f5-01aa75ed71a1.0001.02/DOC_1&format=PDF

98 https://eur-lex.europa.eu/eli/dir/2019/904/oj

99 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L0720

achieve a sustained reduction in the consumption of these bags, including through national reduction targets, economic instruments and marketing restrictions.

Another major outcome of the Plastics Strategy is the aforementioned introduction of an EU-wide a tax on non-recycled plastics packaging waste at a rate of EUR 0.80 per kilogram on 1 January 2021. Given that this tax will be part of the own resources of the EU, it will be levied at the level of each member state. The impact on the demand for non-recycled plastics packaging will thus depend on the national arrangements of each member state (i.e. if paid out of national budgets, the impact will be less, if forwarded to producers/consumers, the impact will be higher).

Further measures have been announced by the European Commission in the EU Circular Economy Action Plan.[100] In 2021, the Commission will table numerous initiatives, including a review to reinforce the essential requirements for packaging and reduce (over)packaging and packaging waste, a restriction of intentionally added microplastics and measure on unintentional release of microplastics, as well as a policy framework for bio-based plastics and biodegradable or compostable plastics. In 2021/2022, the Commission will further table mandatory requirements on recycled plastic content and plastic waste reduction measures for key products such as packaging, construction materials and vehicles.

All these initiatives are of course also highly relevant in the Serbian context as, for example, the EU guidelines on single-use plastics will also be mandatory for Serbian packaging manufacturers and those part of the packaging value chain. The Serbian Circular Economy Roadmap thus recommends informing all relevant stakeholders about the obligations stemming from EU legislation in this area, and in particular about the requirements legislated in the abovementioned Directive 2019/904 on the reduction of the impact of certain plastic products on the environment.[101] A proposed national implementation plan for this Directive will help to provide an overview about the current situation regarding the manufac-

100 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN
101 https://eur-lex.europa.eu/eli/dir/2019/904/oj

turing of single-use plastics and the existing system of plastic packaging waste management.

This will help in identifying existing gaps in Serbian legislation as well as in amending and harmonizing regulations already existing in Serbia. The Roadmap also proposes a media campaign about the environmental consequences of single-use plastics. A higher public information level will be crucial for the introduction of economic measures aimed at penalizing the manufacturing/use of single-use plastic products and at supporting manufacturers of innovative packaging using eco-friendly materials instead of plastics. The Roadmap also recognizes the role of academia in developing technological solutions for the production of biodegradable plastics. As regards the pollution of seas and oceans, the Roadmap proposes a management plan for ship waste and how it is to be handled in Serbian ports.

The Construction Industry

The environmental footprint of the building sector is enormous. About one third of global material consumption and waste generation can be attributed to the construction and demolition of buildings. Up to 40% of urban solid waste is construction and demolition waste,[102] some of which is hazardous (construction waste containing asbestos, PCB, lead in wood paint etc.). In addition, the built environment in the EU is responsible for 40% of energy consumption and 36% of CO2 emissions.[103] These figures underline the need for sustainable, circular and low-carbon construction. For example, the European Environment Agency (EEA) suggests that GHG emissions of the building sector could be reduced by up to 61% through circular economy actions by 2050, in particularly in the design, production and demolition and waste management phases.[104] The greatest potential is offered by

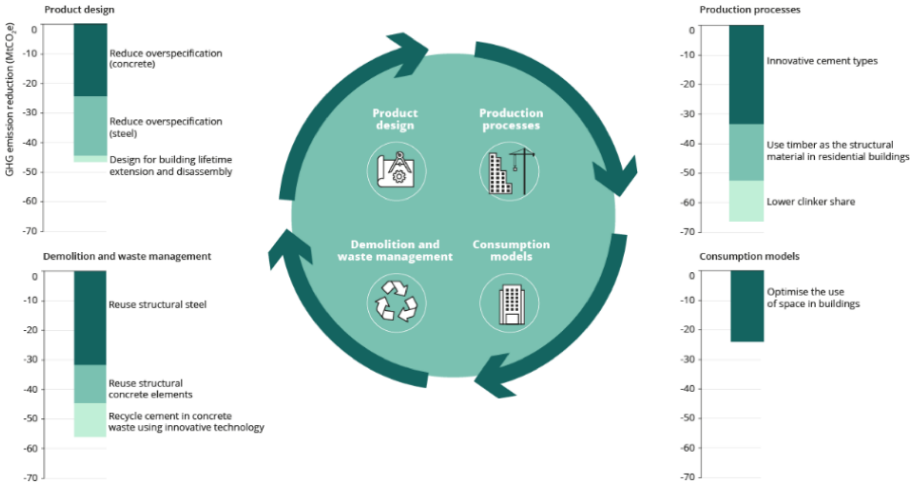
102 https://www.ellenmacarthurfoundation.org/assets/downloads/3_Buildings_Making_Mar19.pdf

103 https://ec.europa.eu/easme/en/news/sustainable-buildings-europe-s-climate-neutral-future#:~:text=It's%20estimated%20that%20the%20built,climate%2Dneutral%20Europe%20by%202050.

104 https://www.eea.europa.eu/themes/climate/cutting-greenhouse-gas-emissions-through/cutting-greenhouse-gas-emissions-through

circular economy actions that reduce the demand for concrete, cement and steel use in buildings (see figure 4).

Figure 21: Overview of key circular economy actions in the building sector and their emissions savings



Source: Ramboll et al. (2020) in EEA (2020)

There are ample opportunities to increase circularity in the building sector. The European Environment Agency (2020)[105] identified key circular economy actions during the whole lifecycle of construction products from design to end of life. First, in the material production phase, a stronger focus should be placed on high-grade products with high-recycled content, which will also have a positive impact on the durability of buildings. Second, in the design phase of buildings, more attention should be paid to the eventual disassembly of buildings. This will ease the separation of buildings into components that can be reused, reassembled, reconfigured and recycled. Third, in the construction phase, data should be collected for "material passports", proving information about materials and components used in buildings and how they can potentially be reused in the future. Fourth, dur-

105 https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-reports/construction-and-demolition-waste-challenges-and-opportunities-in-a-circular-economy

ing the use phase, more emphasis on renovation, maintenance, upgrading, repairing and adapting buildings will extend their service life, thus avoiding new construction and associated environmental impacts. Finally, in the end-of-life phase of a building, selective demolition will help to increase the quantity and quality of recycling by removing hazardous materials and increasing separation into high-value and pure materials.

In regard to the end-of-life phase of buildings, the revised EU Waste Framework Directive (WFD) of 2008[106] included a 70% target for recovery of construction and demolition waste (C&DW) by 2020. This recovery target was introduced to ensure a better preparation of C&DW for reuse, recycling and other material recovery, including backfilling operations. However, despite an average EU recovery rate of 89% already in 2016, C&DW is often downcycled.

The energy and climate dimension of buildings has been addressed by the European Commission, inter alia, within the context of the revised Energy Performance of Buildings Directive (EPBD) 2018/844/EU[107] and the Energy Efficiency Directive (EED) 2012/27/EU.[108] Both Directives set targets for the energy efficient renovation of buildings. In addition, the EPBD requires member states to ensure that by 31 December 2020, all new buildings are nearly zero-energy buildings. To scale up currently low energy renovation rates in the EU, the European Commission announced a "Renovation Wave" as part of the EU Green Deal. While focusing on energy efficiency improvements, the initiative will also look at circular economy principles such as optimized lifecycle performance and longer life expectancy of built assets.[109]

106 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098

107 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.156.01.0075.01.ENG

108 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX:32012L0027

109 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12376-Commission-Communication-Renovation-wave-initiative-for-the-building-sector

A more comprehensive approach to addressing the circular economy in buildings has been announced in the EU Circular Economy Action Plan,[110] which will require the European Commission to table a "Strategy for a Sustainable Built Environment" by 2021. The aim of this strategy will be to ensure coherence between different policy areas, including energy, climate, resource efficiency, waste, digitalization, accessibility and skills. Circular economy principles will be promoted through the possible introduction of recycled content requirements in construction products, a revision of material recovery targets for construction and demolition waste, and support to initiatives reducing soil sealing. The strategy will also promote measures to improve the durability and adaptability of built assets already in the design phase of buildings, and will develop digital logbooks of buildings which contain structured information about a building's main properties (such as design, materials used, structures, installations, systems, performance indicators, certifications etc.).

These initiatives will also have to be implemented in Serbia if the country is to increase the sustainability of its built assets. According to the Serbian Circular Economy Roadmap, the recycling of construction and demolition waste has not been established in the country, and there are no separate landfills for construction waste. This provides ample opportunities to develop the Serbian construction sector through circular economy business models. Against this background, the Roadmap recommends the promotion of sustainable construction and use of eco-friendly materials, the introduction of circular economy principles in the adaption and reconstruction of buildings (in line with the zero-waste model), and to enact the legal framework on waste management in the construction sector. The transition to circular business models should be guided by a dialogue between all relevant stakeholders, including representatives of the construction sector. On the Government's side, the Roadmap recommends a better alignment and harmonization of procedures for monitoring construction waste and materials between different competent ministries, including the Ministry of Construction, Transport and Infrastructure and the Ministry of Environmental Protection.

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110 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN

Chapter VII

Recommendations for the introduction of regulatory, promotional, economic and institutional measures for transition and economic recovery

Table 8: Overview of institutional competences and regulatory framework for further transition

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Include CE in the Plan of Development of the Republic of Serbia as a business model for achieving economic progress with the aim of economic modernisation	Government of the Republic of Serbia	X		
Develop the Programme for introducing circular economy	MEP	X		
Develop the Programme for cleaner production	MEP	X		

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Review waste management regulations, public policy documents, laws and by-laws, harmonise cross-sectoral policies affected by waste management measures such as: defining the term "municipal waste" in line with new EU policies and directives, in order to implement necessary activities for the implementation of measures related to food waste and biomass production	MEP	X		
Introduce landfill tax for the disposal of "raw materials" in sanitary landfills	MEP	X		
Create public policies for reducing the use of plastics	MEP, SCC		X	
Establish indicators for monitoring the transition to circularity through sectoral productivity, circular activities, industrial waste generation percentage, energy consumption and CO_2 production; perform a qualitative assessment of the potential in the identified sectors.	MEP	X		
Draft the Law on Climate Change	MEP	X		
Review the regulations in the field of energy	MME		X	
Draft the Law on Renewable Energy Sources	MME	X		
Establish the market of secondary raw materials and products	Government of the Republic of Serbia		X	

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Establish a mechanism for monitoring circularity	Government of the Republic of Serbia		X	
Prepare a guide for green public procurement	PPD	X		
Develop guides for good practice of networking small and medium enterprises in production processes	SCC	X		
Make changes to copyright regulations in the context of technological innovation	Ministry of Culture and Information, MESTD			X
DESIGN AND CONDUCT PROMOTIONAL CAMPAIGNS FOR THE FOLLOWING AREAS:				
Industrial policy of the Republic of Serbia for the period 2021-2030	SCC and ME	X		
Women's entrepreneurship through circular business models	Government of the Republic of Serbia, working group, SCC, LSG	X	X	X
Green public procurement	PPD	X	X	X
CE business models in towns and municipalities	LSG, SCTM, SCC	X	X	X
Use of waste as raw material	SCC, MEP, ME	X	X	X
Use of renewable energy sources in the sector of agriculture (biodiesel for agricultural machinery), and in households	Ministry of Agriculture, MME	X		

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Mapping consumer awareness of sustainable and circular products	ME, SCC	X	X	
Sustainable public transport	Ministry of Traffic		X	
ECONOMIC MEASURES				
Establish an independent green credit fund to stimulate investment in innovative projects that support the CE business model and sustainable business	Government of the Republic of Serbia (MF, MEP, ME)	X		
Encourage innovation, creative industries and the development of digital platforms	MF, ME, SCC, MESTD		X	
Introduce incentive measures for circular design and application of environmentally friendly materials	MF, SCC, MEP		X	
Establish incentives for producers whose products have a longer lifespan and are environmentally friendly through a tax policy	MEP, MF		X	
Introduce environmental damage tax based on the actual amount of pollution emitted, with the aim of reducing harmful effects on the environment, in accordance with the "polluter pays" principle	MF, MEP	X		

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Introduce amendments to the Law on Budget System (*Official Gazette of the RS*, nos. 54/2009, 73/2010, 101/2010, 101/2011, 93/2012, 62/2013, 63/2013 - corrigendum, 108/2013, 142/2014, 68/2015 – as amended, 103/2015, 99/2016, 113/2017, 95/2018, 31/2019 and 72/2019) and re-introduce using environmental tax revenues for environmental protection	MF, MEP, SCC	X		
Introduce the principle of payment for waste by quantity, not by square metre	MF, MEP, SCC	X		
Provide exemption from waste tax for companies that operate without waste	MEP, MF		X	
Introduce economic incentives for the removal of historical waste in companies in bankruptcy and restructuring in the RS and remediate such sites; promote activities within healthy (green) locations for new investments and employment	MEP, MF, ME, SCC			
Perform cost-benefit analyses for the sectors identified in the Serbian Circular Economy Roadmap	MEP, SCC	X		
INSTITUTIONAL MEASURES				
Reform the regulatory framework in the CE context				

REGULATORY MEASURES	Institution responsible for the implementation of measures	Short-term	Medium-term	Long-term
Establish 'circular culture' as a standard way of adopting decisions among members of the Government within the tasks they perform in accordance with the Law on Ministries				
Establish a forum for dialogue and communication between the business sector and decision makers at all levels, through the digital platform for CE				
Establish sector-specific working groups with the task of analysing sectors with the potential for the transition to CE				

The report also includes a proposal for the Action Plan (AP) with comprehensively presented activities and indicators for continuing the transition to sustainable business in the Republic of Serbia. The measures given in the AP are regulatory, institutional and economic. In the process of implementing these activities, it is desirable to actively involve representatives of businesses as part of team changes necessary for achieving prosperity in society. It is necessary to stress the importance of involving all actors identified through a special working group for CE. In addition, it is necessary to work intensively on the capacity building and training of economic operators and the public sector to make them ready for preparing project proposals for the EU grants available for the transition, discussed in this publication.

Table 9: Proposal of necessary activities for further transition to sustainable business

Action Plan for the Implementation of Activities for Sustainable Business for the period 2021-2030			
	Short-term activities (2021-2022)	**Medium-term activities (2023-2026)**	**Long-term activities (2026-2030)**
Regulatory	Development of guidelines for (gradual) achievement of circularity in the sectors of manufacturing industry, wood industry, construction, primary agriculture Preparation of an action plan for the implementation of the Industrial Strategy in the RS Preparation of the Circular Economy Programme Preparation of a new programme for cleaner production in the context of circular economy Preparation of public policy documents for combating climate change Preparation of the Law on Climate Change Prescribing extended producer responsibility schemes Perform a qualitative and quantitative baseline situation analysis of the waste management sector for the transition to the CE model through resource productivity, waste generation percentage, consumption of water, energy and CO_2 production Drafting the Law on Renewable Energy Sources Establishment of CE as strategic commitment to the development of the competitiveness of the RS	Economic incentives for employers for green jobs Intensive education of consumers about green products and their benefits Development of a public policy document to reduce the use of plastics Development of recommendations for technical and technological recycling processes for obtaining raw materials for industrial recovery Prescribing procedures for establishing a single market of secondary raw materials Development of public policies for extended consumer responsibility The draft Law on Climate Change is in the parliamentary procedure. The draft Law on Renewable Energy Sources is in the parliamentary procedure. Drafting regulations on the percentage of recyclables in products	Creating an investment and regulatory plan for the transition to the CE concept by 2050 Development of a new plan for creating resource policy at the national level Amendments to regulations related to copyright and patents for the needs of circular economy and innovation

Action Plan for the Implementation of Activities for Sustainable Business for the period 2021-2030			
	Short-term activities (2021-2022)	**Medium-term activities (2023-2026)**	**Long-term activities (2026-2030)**
Indicators	Increased number of companies that have developed and adopted guidelines for achieving circularity Adopted Action Plan for the implementation of the Industrial Strategy in the RS Adopted Circular Economy Programme Adopted Programme for Cleaner Production Adopted public policy document for combating climate change Submitted Draft Law on Climate Change to the competent ministries for opinion Adopted extended producer responsibility scheme The amount of generated municipal, commercial and industrial waste at the local level with estimates; collection network coverage Developed local capacities for the use of RES in industrial production Prescribed circularity index for monitoring (recycling targets, t/kg of industrial waste, patents, eco-innovations, percentages of final energy consumption, calculation of CO_2 emission reduction percentages) Drafted Law on Renewable Energy Sources Section in the public policy document – RS Development Plan defining the policy of the transition to CE	Statistical presentation of increased employment Increased sales of green products on the Serbian market Reduced use of disposable plastic (change of packaging, ban on production of plastic straws, price of plastic bags in markets, etc.) Better connection of the sellers and buyers of secondary raw materials at the national level Increased purchases of green products Adopted Law on Climate Change Adopted Law on Renewable Energy Sources Adopted regulation defining the percentage of recyclables in the product	Number of processed applications for state aid for the circular economy implementation programme Digital marketplace of secondary raw materials Transparent division of competences and responsibilities for the implementation of developed resource policy plan

Action Plan for the Implementation of Activities for Sustainable Business for the period 2021-2030			
	Short-term activities (2021-2022)	**Medium-term activities (2023-2026)**	**Long-term activities (2026-2030)**
Institutional	Promotion of green public procurement Preparation of projects for changing energy policy Building capacity of the public sector in the sector of policy making and implementation of regulations: the Ministry of Economy, the Ministry of Construction, the Ministry of Energy, the Ministry of Agriculture, the Ministry of Education, Science and Technological Development, and conducting training on the concept of circular economy and the role of the public sector Training local self-government officials about the concept of circular economy and the role of local self-government officials Training employees of regional chambers of commerce about the concept of circular economy and the role of economic operators in system changes Training of public sector and local self-government officials about the benefits of digitalisation and the promotion of business through e-government	Monitoring of circularity and annual reporting on achieved goals Conducting public procurement in line with the norms on green public procurement	N/A
Indicators	The number of conducted green public procurements indicates an increasing trend The number of submitted projects for energy policy change (individuals and legal entities as investors) The number of trained civil servants in local self-governments The number of processed cases obtained through e-government	Annual report with circularity index Number of conducted green public procurements indicates an increasing trend	N/A

Action Plan for the Implementation of Activities for Sustainable Business for the period 2021-2030			
	Short-term activities (2021-2022)	**Medium-term activities (2023-2026)**	**Long-term activities (2026-2030)**
Economic	Change of fiscal policy in order to exempt economic operators from value added tax (VAT) for circular products Change of tax policy (shifting from taxation of employees to taxation of the use of natural resources) Stimulating measures for industry to operate according to the principles of CE (exemption from waste tax if no waste is produced), charging taxes according to pollution and the amount of generated waste Economic stimulation for innovative production processes	Monitoring the degree of circularity and annual reporting on achieved results, development of criteria for the implementation of corporate governance, reduction of taxes for employees, and increasing taxes for the use of natural resources	Transparency of financial data on the progress of companies in the circular economy, harmonisation of circular economy goals with the guidelines for state aid in the field of environment and energy Investments in RES, use of clean technologies in the production process, establishment of the market of secondary raw materials, introduction of digital passports for products, measurement of environmental footprint in the production process
Indicators	Exemption of producers from VAT for the procurement of secondary raw materials in the production process Proportional reduction of the tax burden on employers for hiring workers and increase of the tax burden for the use of natural resources Cost-benefit analyses conducted for identified sectors	Annual report on the degree of circularity in economy Developed criteria for the implementation of corporate governance, green investments, reduction of tax bases Increasing employment in green jobs, increased use of recycled materials in production processes	Economic analysis of the benefits of shifting to the concept of CE Increasing the percentage of RES use in production processes Data on accepted projects (public sector and economic operators) and the amount of approved funds for financing the transition to CE

RECOMMENDATIONS

The basis of all successful transitions is that initiatives for key changes are accompanied by strong support of the (executive) authorities through defined priorities of the Government as well as the adoption of strategic documents that provide guidelines for further legal regulation of norms and central topics of a strategic document.

In the transition period, it will be necessary to redefine the priorities, to harmonise the legal norms (already more or less transposed) with the EU norms, in order to be able to proceed with further transition to the EU. It is necessary to actively monitor the regulations concerning the EU policy in the context of CE and in particular to focus on:

- *EU policy activities regarding the coherent framework of production policies for different sectors and the measurability of their contribution to CE;*
- *Monitoring the use of best available techniques in the context of CE (BAT and BREFs reference documents for several different industry sectors);*
- *Agreeing on time frames for activities in the waste management sector in line with new CE policies and implementation needs;*
- ***Formalising the established platform for circular economy in the Prime Minister's Office by establishing the Circular Economy Council. The Council would be chaired by the Prime Minister of the Republic of Serbia. The Council would include consultants who would continuously inform the Government representatives and their associates about the progress in the transition to CE and the policies that encourage its development. The Council would coordinate all activities at the national level aimed at promoting and implementing the concept of circular economy. The Council would be involved in drafting the Government's medium-term action plan and establish a digital platform for CE in the Republic of Serbia.***

LIST OF ACRONYMS

BAT	Best Available Techniques
GDP	Gross Domestic Product
CE	Circular Economy
CEAP	Circular Economy Action Plan
CEH	Circular Economy Hub
EU	European Union
ETS	Emissions Trading System
GHG	Greenhouse Gas
IPA	Instrument for Pre-Accession
RS	Republic of Serbia
LSG	Local Self-government
OECD	Organisation for Economic Co-operation and Development
RES	Renewable Energy Sources
IMF	International Monetary Fund
MSME	Micro, Small and Medium-Sized Enterprises
SME	Small and Medium-Sized Enterprises
MEP	Ministry of Environmental Protection
MME	Ministry of Mining and Energy
ME	Ministry of Economy
MESTD	Ministry of Education, Science and Technological Development
MF	Ministry of Finance
NERP	National Emission Reduction Plan (plan for the reduction of emissions of major pollutants originating from old large combustion plants)
NGEU	Next Generation EU
VAT	Value Added Tax
SCC	Serbian Chamber of Commerce
R&D	Research and Development
RFF	Recovery and Resilience Facility
FDI	Foreign Direct Investment
PPD	Public Procurement Directorate

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