



Republic of Serbia



EU for Green Agenda in Serbia



PILLAR 2: CIRCULAR ECONOMY IMPLEMENTATION
FOR RESOURCE EFFICIENCY AND INDUSTRIAL SYMBIOSIS

CHALLENGE CALL FOR PROPOSALS

March 2022



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*“Accelerating the shift to a circular economy is essential to achieve the climate goals agreed by the international community and to help rebuild the world’s economies stronger, greener and better.”
([UNFCCC, 2021](#))*

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Challenge Call for Innovative Circular Economy Project Proposals

The Challenge Call seeks to solicit innovative project proposals from local self-governments or public companies, as well as from private entities (SMEs, waste operators and industries) on how to increase resource efficiency, reduce and reuse waste in production processes, and establish industrial symbiosis by applying the principles of circular economy. Such projects will underpin the implementation of the Green Agenda in Serbia.

The Challenge Call consists of two sub-challenges:

1. A call for local self-governments and public companies;
2. A call for private sector companies.

The first component of the Challenge Call is focused on selecting, and providing support for the implementation of, **innovative business models, technologies, and digital solutions to be put forward by public companies or cities and municipalities**, with a focus on resource efficiency through non-hazardous waste reuse and recycling (including special focus on biodegradable waste, including sludge).

The second component of the Challenge Call is focused on the selection of and support to **SMEs (e.g., the HORECA sector), waste operators, and industries (e.g., farms and the food processing industry) to establish industrial symbiosis and apply the best available technologies and techniques for optimizing the use of resources and energy**. This component could also include other waste streams, such as: bio-waste, construction/demolition waste, plastics, paper, metal, and glass.



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What kind of projects will be sought?

<ol style="list-style-type: none"> 1. Projects applying new technologies or involving the new application of existing technological solutions (the first-of-its-kind in Serbia); 2. New/improved business models or organization/production processes; 3. Circular design (design for a prolonged lifecycle, design for recyclability, design for disassembly and ease of repair, energy and water efficient design, design for durability, toxic-free design, design for upgradeability, modular design, zero-waste production, clean production); 4. New business models for products/services that promote shared use, increased efficiency and productivity of usage, or models that promote access over ownership; 5. Models, technologies, or methods involving the repeated use of end-of-life products and materials (practical reuse of waste and by-products); 6. Urban solutions that increase resource and energy efficiency by utilizing the current waste streams of materials and/or energy; 7. Urban design solutions, including circular construction and buildings. 	<p>Additional aspects to be considered in project design</p> <p><i>For all applicants:</i></p> <ul style="list-style-type: none"> • Contribution to Serbian waste policy implementation. • Concrete impact on greenhouse gas (GHG) emissions reduction. • Solving social challenges (gender equality, marginalized groups, unemployment, etc.) - if recognized within the project, such aspects should be presented and their effects explained. • Increasing transparency in resource flows (including water, energy, materials, and waste) so as to enhance knowledge of the availability of resources and their valorization and to accelerate the creation of a secondary material market. <p><i>For Cities and Municipalities:</i></p> <ul style="list-style-type: none"> • New governance, utilization, optimization, or maintenance models of urban/rural infrastructure that promote circularity principles, in particular if the models prolong the lifespan of the infrastructure. • Implementing new policy frameworks, planning for systemic circular transition, and enabling resource governance models aimed at contributing to systemic circular transition and the creation of circular cities and communities.
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Application process

Interested applicants shall [apply online](#) at zelena-agenda.euzatebe.rs, with a project proposal describing the innovative idea and utilizing the evidence-based approach, providing information on objectives, key activities, expected outputs and outcomes, and a detailed budget. Where applicable, additional information requested by evaluators may be included on separate files. Selected applicants will gain the opportunity to participate in the Project Accelerator and obtain mentorship and technical support.

Evaluation and selection

Who can apply?

- Local self - government units (city and municipality);
- Public utility companies;
- Commercial organizations/businesses (LTDs, entrepreneurs).

All applicants have to be registered in Serbia, according to national legislation.

Applicants can apply independently or in consortia. If applying in consortia, the Lead Applicant, which shall represent the consortia and serve as the main point of contact throughout the application process, must be clearly indicated. The Lead Applicant will also be the main recipient of the co-financing funds.

Applicants can submit up to two applications as a Lead Applicant and can participate in an unlimited number of applications as a consortium member.

Note: Research institutions and organizations can apply as partners in consortia with cities/municipalities, public utility companies, and private sector enterprises.

Disclaimer: Applications will not be accepted if prepared by any company engaged in:

- The production, selling, or distribution of tobacco and tobacco products;
- The production of alcoholic beverages.

All eligible entries received during the application phase will be reviewed for completeness and adherence to the Project Challenge Call Objective and Criteria, evaluated by an independent evaluation of the Panel of Experts, and finally confirmed by the Project Steering Committee.



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Overall Timeline of the Challenge Call

APPLICATION AND SELECTION PHASE	
23 rd March, 2022	CALL OPENS
30th March, 2022 5th April, 2022 15th April, 2022	Hybrid and Online Info Days for potential applicants
29 th April, 2022	Deadline for the submission of applications
13 th May, 2022	Selection process and final results
ACCELERATION PHASE	
May 2022 – June 2023	Mentoring/coaching, training and webinars
IMPLEMENTATION (PHASE 1)	
November 2022	Selection of up to 5 projects deemed most applicable and signing co-financing agreements
December 2022 – December 2023	IMPLEMENTATION of the recognized projects
SELECTION AND IMPLEMENTATION (PHASE 2)	
June 2023	Depending upon the availability of resources, the selection of up to 10 additional projects and signing co-financing agreements
July 2023 – July 2024	IMPLEMENTATION of additional projects



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Application Phase

Applications may be submitted only during the Application Phase, which will be open from March 23 to April 29, 2022.

Applicants are requested to complete the [application online](#) at zelena-agenda.euzatebe.rs, and submit it by the indicated deadline. It is the sole responsibility of the applicant to upload the correct information through the application portal on the Challenge Call webpage.

Eligible applicants are local self-governments, public utility companies, and private organizations/businesses (LTDs, entrepreneurs) registered in Serbia, according to the relevant national legislation.

The UNDP team reserves the right to request additional information as part of the application process depending on the complexity and specificity of the application and business model.

Applicants can participate in Online Info Days, which will be organized on 30th March (hybrid, [registration](#) required), 5th April (online, [registration](#) required), and 15th April 2022 (online, [registration](#) required).

What are the main categories for the projects being sought?

Based on the financial plan and total project budget value, proposals will be divided into 3 categories:

1. Small projects (up to 100.000 EUR) – financial resources for the implementation of such projects can also be provided through alternative sources of funding (for example crowdfunding).
2. Medium projects (up to 1 million EUR),
3. Large projects (investment values exceed 1 mil EUR).

Important Note on co-financing: All projects that are expected to be co-financed, either through bank loans or other sources of financing (bilateral, multilateral, private, etc.), must present by the end of the Acceleration Phase a contract with the bank and/or other documents confirming the co-financing commitments. Also, it is important to note that there is a requirement in the application form to provide at least an indication of financing sources and the amount of co-financing. Where relevant, the applicants can confirm this by letters of intent, memorandums of understanding, guarantee schemes, bank guarantees, etc.). The value of the co-financing of each project will be defined based on the cost-benefit analysis and the determined impact of the project.



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The Intellectual Property Rights Disclosure

The sole applicant shall provide a written confirmation to accompany the application confirming to UNDP that the relevant entity(ies) holds all intellectual property rights which are reasonably foreseeable as necessary for achieving the project goals, or a detailed description of the manner in which these rights shall be resolved in conformity with project goals. Furthermore, the sole applicant is required to confirm to UNDP that no intellectual property disputes have arisen from the submitted innovative idea. In the case of applications submitted for projects in consortia, the consortium agreement should appropriately confirm and resolve intellectual property rights between consortium members. In case of other intellectual property issues, the applicant(s) are required to disclose them to UNDP before the evaluation process.

Selection Phase

The Selection Phase will last from 29th April to 13th May, 2022.

The Project Team will conduct the technical evaluation of application forms to ensure they are completed correctly and meet the eligibility criteria, before submitting them to an independent evaluation by the Panel of Experts.

The Project Team will provide a team of qualified experts (covering all aspects of the proposed ideas – technical and managerial), the Panel of Experts, who shall review and evaluate the proposed ideas.

Based on the evaluation criteria, the Panel of Experts will assess applications, and **up to 20 ideas** deemed best will be selected for the Acceleration Phase. Only projects which successfully complete the acceleration process will be considered for co-financing.

Assessment criteria

Eligible applications will be assessed based on the following major criteria:

1. Presentation of the proposal and its compliance with the Challenge Call
2. Innovation
3. Principles of circular economy, resource efficiency, and industrial symbiosis and policy compliance
4. Quality and soundness
5. Local environmental and social impacts
6. Operational and management capacity
7. Sustainability and replicability
8. Co-financing



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Evaluation criteria and scoring for the selection of proposals for Acceleration

Criteria	Maximum score	Description
Presentation of the proposal	10	Is the initial information clearly presented in the application form, including regarding compliance with the Challenge Call?
Innovation	10	Can the project be considered as innovative in the Serbian context?
Principles of circular economy, resource efficiency, and industrial symbiosis and policy compliance	15	What are the principles of circular economy which will be applied in the proposed project? Is the project focused on one segment or the entire life cycle of the product/production process? Which circular economy technology, business model, product, or service will be applied? How well does the project deliver towards Serbian and EU waste policy in both method and performance?
Quality and soundness	10	What is the level of the technical readiness of the project? How well is the project positioned at the market, regarding feedstock and customers/competition?
Local environmental and social impacts	15	What other environmental and social impacts of the project could be observed at the local level? How does the proposed solution address circular economy-related priorities at the national and local levels? What is the project's foreseen impact on youth, women, and/or marginalized groups? What is the project's foreseen short- and long-term impact on local development and employment?
Operational and management capacity	15	Does the applicant(s) demonstrate the relevant skills, expertise, experience, and other resources to implement the project successfully within the established timeframe? To what extent is the necessary expertise brought together?



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Sustainability and replicability	10	Does the project have the potential to be scaled up and/or replicated over time and be implemented by other stakeholders in Serbia?
Co-financing	15	What is the project cash co-financing amount and what is the share of it in the total investment?
Total	100	

Acceleration Phase

The Acceleration Phase will last from May, 2022 to June, 2023.

The Circular Economy Accelerator will act as a facility for the provision of technical assistance, co-working space, and a help desk for up to 20 selected project applicants. With the support of the project’s technical staff, consultants, and dedicated mentors, applicants will be provided with an opportunity to further elaborate their project concepts, test pilot models, and further develop the proposed technical solutions. The selected teams will receive all such coaching support free of charge. The acceleration support will also include specific analyses, assistance in the development of project-related documentation, capacity building workshops, boot camps, and participation in events, including possible site visits and study tours. The accelerator will also assist the participants in learning more about the lifecycle perspective and will conduct a simple **lifecycle assessment** if deemed relevant. This Acceleration Phase is envisaged to last for at least **6 (six) months** for the most advanced projects, with up to an **additional 6 (six) months** for those projects deemed as needing more detailed technical assistance to become suitably ready for seed funding/co-funding.

The selected applicants are expected to fully engage and complete success indicators/targets, as indicated below:

- Fully participate in the provided training programme, workshops, mentoring sessions, and other related events organized by UNDP and project partners;
- Develop a clear business roadmap to transform the business from linear to circular with a complete work plan and activities to be undertaken;
- Prepare the necessary technical documentation, including pre-feasibility and other studies where relevant, to enable proposed solutions, digital solutions, and business models for operation.



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Investment Grant Support Mechanism - co-financing grant

Upon completion of the Acceleration Phase, the Steering Committee will select the first group of **five (5) projects** which are deemed ready for actual implementation. Appropriate **co-financing** will be provided in the form of Low-value Performance-Based Payments Agreements (PBPA) and/or guarantee schemes for commercial loans and other borrowings for green investments. In the case of projects identified as eligible for IPA financing (or financing through other EU financing instruments), the relevant EU Delegation might authorize the submission of such projects for the IPA programming process or other appropriate co-financing. In collaboration with EIB, the future scale-up actions could also be prepared for loan support in line with EIB eligibility criteria. PBPAs as a contracting modality are regarded as bringing more value compared to regular grants as they represent a kind of partnership agreement with the beneficiary.

However, it is important to mention that co-financing will serve only as seed funding. The co-financing is to be used as equity participation of the applicant in the financing scheme, which the applicant shall mobilize, and such co-financing should be considered as a de-risking mechanism for the overall investment. The applicant is responsible for identifying and obtaining other sources of financing for the particular project.

Within the EU for Green Agenda in Serbia project, project proposals might be development and aligned with potential EIB financing. The Project Steering Committee will present to EIB the projects with bankability potential, with a view of facilitating EIB's due diligence and approval by EIB governance bodies. The Serbia Green Agenda pipeline of identified bankable projects could potentially be financed through various EIB instruments, depending on the characteristics of each individual project. These projects may be presented to other financiers in parallel for co-financing.

Please note that this call is conducted independently of any assessment for potential financing by the EIB. Therefore, a selection as a result of the call does not represent, and should not be construed as representing, a commitment by the EIB to provide such financing. The number of projects selected for support in the implementation of obtained co-financing, as well as the corresponding value of such financing, could be increased, depending on the availability of additional funding resources.

Individual grants per project will depend on the project investment value and are also to be limited to the established proportional share of the total investment, or an established maximum, as indicated below:



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Investment value	Donor co-financing per project
Small project (up to 100,000 EUR)	Up to 40% of the total investment, but no more than 30,000 EUR
Medium projects (100,000 USD – 1 mil EUR)	Up to 30% of the total investment, but no more than 100,000 EUR
Large projects (investment value exceeds 1 mil EUR)	Up to 20% of the total investment, but no more than 200,000 EUR

Disclaimer: *On exceptional basis, for project proposals with evaluation score of minimum 85 points graded by the Panel of Experts, and a provided budget justification, it might be possible to increase the rate of donor co-financing. The Project Steering Committee will make the final decision on each individual request, in line with the budget availability. Moreover, it is expected that **10 additional projects** will be funded in the second phase of the project implementation, but the number of projects selected for funding and the value of financing will depend on the availability of additional funding resources.*

The co-financing will be delivered in tranches, upon fulfilment of the indicators that are to be specified for each individual selected project.

Implementation (phase 1)

Projects selected by the Project Steering Committee under the first phase will have to finalize implementation of proposed activities from December 2022 to December 2023.

Upon the signing of the co-financing agreements, in the implementation phase, the selected teams will have to put their ideas into action, and their progress will be monitored. The focus of this phase is on achieving successful implementation and generating evidence of outcomes.

Field visits will be organized, with the involvement of the Project Team and project partners. At the minimum one visit will be arranged coinciding with the final report.



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Implementation (phase 2)

After the initial selection of those 5 projects qualified as most applicable in phase 1, other applicants will have an opportunity to continue the development of proposed projects in the Circular Economy Accelerator.

In line with the availability of additional funding sources, the Project Steering Committee will select up to 10 projects and sign co-financing agreements. Projects selected under phase 2 are to be implemented from July 2023 to July 2024.



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Application form

The application must be completed in Serbian, while the summary of the proposed project idea has to be provided in both Serbian and English. It is important that you address and respond to each question clearly. When completing the application form, please note that the space available for responding to certain questions is limited (clearly indicated).

The application needs to be submitted through an [online form](#), which can be accessed at the following website: zelena-agenda.euzatebe.rs, by 5 p.m. (CET) on April 29, 2022.

Please attach the following documents in support of your application:

- The Intellectual Property Rights Disclosure;
- Draft partnership agreement(s) (if applicable);
- Documents confirming co-financing commitments.

Important:

- **Please ensure that you upload the final and complete version of your application by the deadline.**
- **In completing the application form, please consult the relevant evaluation criteria.**

Application details	
Title	Enter the full title of the project idea
Main sectors of interest related to the Challenge Call	
Project duration	Expressed in months
Lead Applicant	
Name of the Lead Applicant	Enter the full registered name of the Lead Applicant for the project
Contact details of the Lead Applicant	Enter the full name, address, postal code, e-mail address, and telephone number of the main point of contact
Other project applicants (if applicable)	
Name of project applicant(s)	Enter the full name and type of each additional organization(s)/project applicant(s)
Contact person	Enter the full name, address, postal code, e-mail address, and telephone number of each other project applicant



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Summary of the proposed project idea	
Please provide a short summary, including the scope and objective(s) of the project. The summary should be no more than 300 words (in Serbian and English).	The summary should present the main description of the project proposal, with sufficient information to provide a clear understanding of the project and its overall goal. It should also clearly present how the project will achieve its objective(s).
The project details	
Project description Limit is 2000 words	What specific climate & circular economy related issue(s) is/are the project addressing? Please provide an overview of the approach (technical, technological, business model, etc.) and methodology that the project aims to apply to respond to the Challenge Call. Please describe the principles of circular economy which will be applied. What is the expected GHG emission reduction resulting from the project idea (the GHG emission reduction potential of the proposed idea)? Please also explain any relevant methodologies/tools used.
What is innovative about the project? Limit is 1000 words	Applicant(s) should consider some of the following questions: What are the innovative elements of the proposed project? Does it represent the implementation of an existing idea into a new operational setting? Why will the proposed innovation be successful in addressing the relevant issue(s) compared to some other more standard approach?
What are the risks to project's success and what is the project's risk management strategy? Limit is 200 words	Please identify the key risks and uncertainties of the project and how the project would mitigate these risks.
Intellectual property rights disclosure Limit is 200 words	Please identify the relevant intellectual property rights held or describe the model in which they will be resolved and confirm the absence of any legal disputes arising from IP rights.
Do the project applicant(s) have the requisite skills and experience to implement the proposed project?	Please explain the experience and role(s) of your team members.



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Limit is 1000 words	Please describe any previously implemented projects/activities relevant to the objectives of the Challenge Call.
Activities of the project (including timetable) Limit is 1000 words	Which activities would be required for the applicant(s) to implement the proposed Project? How does the proposed project cohere with your existing activities? How will the local community be engaged?
Expected impact/s and outcomes Limit is 1500 words	Describe the main foreseen impacts and outcomes of the project. Describe the expected impacts arising out of applying circular economy principles. How will the project activities contribute to creating carbon-neutral communities based on the principles of circular economy? How does the applicant(s) intend to ensure the sustainability of the project results and the impacts created? How will the project impact vulnerable groups (youth, women, marginalized groups)?
Gender approach Limit is 300 words	Please elaborate on the approach for mainstreaming gender in the project, acknowledging the complementary roles of both women and men, in order to obtain gender equality.
Expected project budget	Please indicate the anticipated project costs in USD (against planned activities). The total budget and cost structure must be reasonable, realistic, and in line with the project activities. Clearly present the contribution from any project partners. How will the funds necessary for the project implementation be secured? Include the sources, structure, and any relevant supporting documentation as evidence.



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About the Project

This Challenge Call for Proposals is being published as part of the project “EU for Green Agenda in Serbia: Get Started, Take Action, Scale-up,”, which is financially supported by the EU Delegation to Serbia, in partnership with the Ministry of Environmental Protection of the Republic of Serbia, and implemented by UNDP, in collaboration with the Swedish Embassy and the European Investment Bank - under Pillar 2 of the Green Agenda for the Western Balkans: Circular Economy for Resource Efficiency and Industrial Symbiosis.

The project’s primary objective is to contribute to the efficient, inclusive, and sustainable implementation of the Green Agenda for the Western Balkans (EC, 2020. [Link](#)) and its Action Plan (RCC, 2021. [Link](#)) in the Republic of Serbia, by building broad engagement and societal participation.

Major efforts have been performed to align Serbian environmental and waste policy frameworks to the EU acquis and determined targets, in the context of the Chapter 27 of the EU negotiation process. The concrete implementation of pilot actions will significantly support EU and Serbian policy implementation, as well as implementation of the recently adopted *Waste Management Programme of the Republic of Serbia for the period 2022-2031*. It will also establish synergies with the EU funded project „Promoting waste source separation in 4 regions“ in Serbia.

It is envisaged that support to the Green Agenda implementation will be provided through policy support and capacity building, knowledge exchange and awareness-raising campaigns, and **Challenge Calls for Proposals** for innovative piloting actions to support green transition. These Challenge Calls will be developed and applied by UNDP, in close cooperation with the EU Delegation and relevant institutions.

In this way, the project should contribute to the green transformation and decarbonization of the economy and society in Serbia. The project should also contribute to achieving the Paris Agreement goals, reducing environmental pollution (air, soil, and water), and supporting the alignment of Serbia’s regulatory framework with the EU acquis in adherence to the five pillars of the Green Agenda:

1. Climate action, decarbonisation, energy efficiency, and green industries;
2. Circular economy for resource efficiency and industrial symbiosis;
3. Depollution of the environment with a strong focus on air quality;
4. Protecting and investing in biodiversity and ecosystems;
5. Sustainable food systems for sustainable rural livelihood.



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This **Challenge Call for Innovative Circular Economy Project Proposals** focuses on the provision of professional technical support (“acceleration support”) and performance-based co-financing to circular economy ideas, projects, and business models that are aimed at contributing to low-carbon development. The biggest identified challenges in this field are the lack of investments, incentive measures, and sustainable business models, followed by the lack of legal procedures, a general lack of information, and the unfavourable behavioural habits of citizens. Efforts to support the circular economy model imply shifting from the currently dominant linear ‘take-make-dispose’ system to a system that is restorative and regenerative by design, once which fosters “closing the loop” of product lifecycles through expanded recycling and reuse and which promotes sustainable consumption patterns. Activities are being conducted in collaboration with both traditional and non-traditional partners, from the private sector (circular business), the public sector (circular change), and citizens (circular culture and mindset).

This initiative is aimed at mobilizing a basic ecosystem to initiate transformative activities, scale up piloted innovation, catalyse resources, and sustain established partnerships for advancing the circular economy agenda in Serbia. This should serve as initial step for promoting strategic partnerships between the public and private sector for accelerating the circular economy transition in Serbia, including in generating guidelines for business actions along the value chain, as well as in building cases for private sector investments. Moreover, this initiative will introduce guarantee schemes for commercial loans and other borrowing vehicles for green investments and projects for public and private entities, while developing a pipeline of circular economy projects. Finally, it should result in establishing a relevant stakeholder network and facilitating transformative dialogue.

In Serbia, a lack of source separation and waste treatment at the municipal level and low waste recycling rates represent an obstacle for promoting the circular economy model. This project should unlock solutions from and for both the public and private sector to support improved waste treatment, from waste prevention, to separated waste collection, to reuse and recycling.

Still, major steps need to be taken in order to establish enabling policy frameworks, incentives, and mechanisms at both the national and local levels. This includes strategies of dematerialization (saving and reducing material and energy use) and re-materialization (reuse, remanufacturing, and recycling) in a system-wide approach to a circular economy, as well as infrastructure transitions within sustainable urbanization. Key actors, such as ministries, development agencies, chambers of commerce, and circular knowledge centres, are aligning efforts towards this common goal.

In addition to prioritizing waste reuse and recycling and the setting up of secondary raw materials markets, the project will build upon the ***Roadmap for Circular Economy in Serbia*** (MoEP, 2020. [Link](#)), and results of the ***Report on the Conducted Ex-Ante Analysis of the Effects of Circular Economy Practice*** (MoEP, 2020. [Link](#)), integrated into the ***Proposal of the Program for the***



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Development of Circular Economy in the Republic of Serbia for the Period 2022-2024 (MoEP, 2021. [Link](#)), as well as recently adopted ***Waste Management Programme of the Republic of Serbia for the period 2022-2031*** (MoEP, 2022. [Link](#)).

The project puts forward an innovative challenge-based approach, centered around the active engagement of communities and businesses – as a tool to jointly identify challenges and propose, develop, finance, and implement a portfolio of new, carbon-neutral (or nearly carbon neutral) pilot/demonstration projects and business ideas based on resource efficiency and the circular economy approach.

The importance of the circular economy in the green agenda and the climate change crisis

An economy based on the principles of the circular economy contributes to the reduction of the negative effects of the production-consumption patterns that accelerate global warming and increase the greenhouse effect. While assessments indicate that 55% of climate-related effects can be reduced with alternative energy systems, the remaining 45% falls under the domain of how and what resources we use in everyday life ([EMF, 2020](#)). Sustainable and circular cities and communities are recognized as part of the solution. Cities consume around 60% of domestic raw material and generate around 70% of GHG emissions. These negative effects can be mitigated if we take the whole lifecycle of products into account and plan future products, services, and processes to enable easy recovery of energy, water, and materials and the returning of them back to consumption. These challenges and opportunities represent building blocks of the circular economy.

The **Challenge Call for Innovative Circular Economy Project Proposals** seeks to create an enabling environment for green and circular transition and green recovery, and to facilitate Serbia's alignment with the EU Green Agenda for the Western Balkans, by taking into account the following:

- The European Green Deal and the EU Green Recovery Plan (Europa.eu, 2020. [Link](#)), which features circularity as a prominent element;
- The EU Green Agenda for the Western Balkans, which extends the European Green Deal policies to the candidate countries of the Western Balkans (Europa.eu, 2020. [Link](#));
- A new EU industrial policy that establishes the circular economy as one of the main pillars of development (Europa.eu, 2020. [Link](#)); and
- A new EU Circular Economy Action Plan (Europa.eu, 2020. [Link](#)).

The “life cycle perspective” is perhaps the most important element in all strategic documents that invoke and promote the circular economy. The “life cycle perspective” takes into account all



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social and environmental impacts of materials, components, and products across their entire material “life” and at every stage, starting with the initial production of raw materials, through their processing and transformation into goods, their distribution, and their consumption, and, finally, culminating in the disposal of products at the end of their lifetime. In addition to providing a complete overview of the environmental and other impacts of the products under consideration, this perspective also draws attention to their regenerative aspects.

The lifecycle of a product is a line of intertwined, but consecutive stages of a single product-service system classified into 7 distinct stages:

- (Raw) material acquisition /extraction;
- Design;
- Production/processing;
- Logistics (supply chain transportation and delivery);
- Use;
- End-of-Life (EOL) treatment; and
- Final disposal.

Figure 1, below, is an illustration of the essential principles of the circular economy and the lifecycle aspects that should be tackled to enhance resource efficiency and reduce the negative environmental and other impacts of a product.

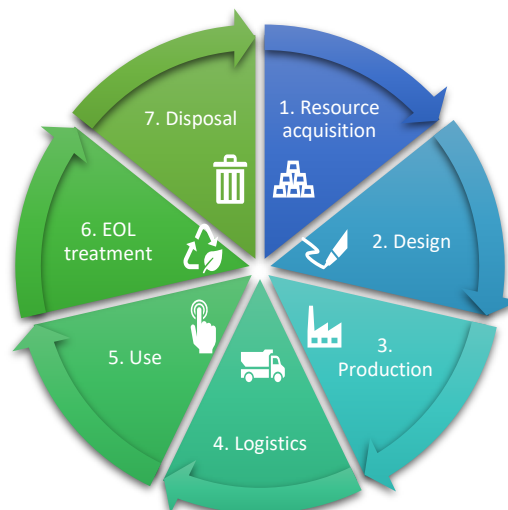


Figure 1 - Lifecycle stages that should be tackled to enhance resource efficiency and reduce negative environmental and other impacts of a product



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Circular Economy for Resource Efficiency and Industrial Symbiosis:
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The life cycle perspective is an EU recommended perspective to ensure the minimization of product/service environmental impacts from the moment it is designed to the moment it has to be re-used, recycled, or landfilled. It is standardized under the ISO 14000 series of standards and emphasized by the 14001 LCA related standard (ISO,2020. [Link](#)).

Some examples of how to tackle negative effects on the environment, while reducing resource consumption and raw material dependency, are presented in the following table:



Types of strategies to enhance industrial symbiosis and resource efficiency

1. Resource acquisition:	4. Logistics and delivery:
<ul style="list-style-type: none"> • Secondary material sourcing • Waste reuse and recycling • Industrial symbiosis • Bill of materials • Resource tracking and tracing • New nature-based materials 	<ul style="list-style-type: none"> • New business models including reverse logistics • Virtual shops and e-commerce • Vehicle tracking systems • Route optimization • New fleet business models • Bulk shopping and the “milkman” logistics model (returnable packaging)
2. Design:	5. Usage:
<ul style="list-style-type: none"> • Biomimicry (mimicking biological systems in final product design) • Design for repair/maintenance, disassembly, upgrading, recycling • Digitization and digital transformation - virtualization of products 	<ul style="list-style-type: none"> • Sharing (platforms) • Pooling business models • Leasing • Access over ownership business models • Predictive maintenance
3. Production:	6. EOL solutions:
<ul style="list-style-type: none"> • Cascading • Industrial symbiosis • Industrial ecology (production optimization) • Clean production • Lean production • Smart production (Industry 4.0) 	<ul style="list-style-type: none"> • Business models for product upgrading • Refurbishing • Remanufacturing • Second purpose usage and cascading • Reuse and Recycling
	7. Landfilling:
	<ul style="list-style-type: none"> • Waste to energy solutions



Republic of
Serbia

EU for Green Agenda in Serbia: Get Started, Take Action, Scale-up
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