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Title: Demonstration of systemic solutions for the territorial deployment of the circular economy

Challenge:

Boosting circularity can be part of the policy response to address systemic crisis such as climate change and the recovery from the COVID-19 pandemic by providing circular systemic solutions for sustainable growth and economic recovery. In the context of an increasing global consumption and growing pressure on resources, there is an urgent need to decouple economic growth from resource use and to increase Europe's resilience to uncertainty in raw material supply and increase security of value chains. A sustainable, regenerative, inclusive and just circular economy can significantly help our economies to reconcile with the limits and boundaries of our planet by restoring natural systems, reducing GHG emissions and minimising loss of natural capital and biodiversity. It can also connect environmental policies with social justice through an inclusive and just transition ensuring environmental sustainability, jobs and social inclusion. A just transition framework for the circular economy can identify opportunities that reduce resource consumption and waste generation, stimulate product innovation, and contribute positively to sustainable human development. It is essential to ensure that the transition to a resource-efficient and circular economic model also delivers on social objectives.¹ The circular economy concept should be a central component in local and regional economies, which have a suitable scale for closing resources loops, creating sustainable circular ecosystems and designing community-based participatory schemes. An increasing number of cities, regions, industries and businesses are engaged in testing and improving circularity in their territories, economic sectors, value chains and services. Nevertheless, the concrete implementation of systemic solutions for the territorial deployment of the circular economy still needs to be demonstrated and replicated effectively in other areas. The EU added value can be obtained where territorial circular systemic solutions will be demonstrated in a certain territory

¹ <https://www.chathamhouse.org/publication/promoting-just-transition-inclusive-circular-economy>

and replicated in other areas within and beyond Europe. This process of demonstration and replication will multiply the territorial contribution to achieve the policy targets of the European Green Deal, the Circular Economy Action Plan and the Bioeconomy Strategy.

The implementation of circular systemic solutions will be carried out in close cooperation with the European Commission's 'Circular Cities and Regions Initiative',² part of the new EU circular economy action plan and aimed at supporting the concrete implementation of sustainable, regenerative, inclusive and just circular economy solutions at local and regional level.

Scope:

Proposals must implement and demonstrate concrete systemic solutions for the territorial deployment of the circular economy (including circular bioeconomy) in at least three territorial clusters. Systemic solutions shall demonstrate the role of the territorial circular economy to reconcile our economies with the limits and boundaries of our planet, to respond to citizen concerns in the wake of systemic crisis such as climate change, biodiversity loss and the COVID19 pandemic, to increase resilience and to provide concrete and sustainable solutions for the socio-economic recovery of a specific territory. Special attention should be given to vulnerable people and SMEs. Sustainability, inclusiveness, health and social justice must be at the core of each systemic and cross-sectoral solution. Special attention shall be paid to avoid and tackle social, gender and intergenerational inequalities. The replicability and scalability potential of the clusters' systemic solutions and their business models is essential.

A circular territorial cluster (hereinafter referred to as 'cluster') is a 'circular economy basin', a socio-economic and environmental system composed of relevant and complementary territorial actors to implement, demonstrate and facilitate the replication of at least one circular systemic solution (hereinafter referred to as 'systemic solution') i.e. a large-scale demonstration project, programme, initiative for the territorial deployment of the circular economy. Examples of actors are administrations, industry (including small and medium enterprises - SMEs), scientific community, financial intermediaries, non-governmental organisations and civil society. Each cluster should include a geographically cohesive territory (e.g. a group of neighbouring cities) or territories representing components of specific value chains. The composition and dimension of each cluster must be clearly explained and justified by the proposals. The totality of the territorial clusters should reflect a geographical spread within Europe – i.e. at least one cluster per each area of Europe: (i) northern-west Europe, (ii) central and eastern Europe, and (iii) Mediterranean Europe – and include cities and/or regions of different sizes and socio-economic structures to the largest extent possible. The proof of formal commitments of the involved local and/or regional authorities at the proposal stage is a precondition.

² <https://ec.europa.eu/research/environment/index.cfm>

Systemic solutions shall be cross-cutting among different sectors and include science, technology, governance, economic, social and environmental dimensions and components. A systemic solution should address one or more economic sectors/value chains/technological processes to increase their circularity, involve circular participative governance models, demonstrate sustainable products and/or services' business models, involve one or more social and community-based innovation schemes (such as local repairing schemes for products), address environmental, behavioural and cultural aspects, and provide specific training, education and knowledge sharing services for local stakeholders.

The economic sector addressed by each systemic solution should be selected according to local and regional circular economy potential and smart specialisation priorities, while also taking into account, if relevant, global dimension with regards to value and supply chains. This selection must be clearly justified and explained in the proposals. One or more of the following sectors should be covered: waste (including bio- and plastic waste), water, food, feed, organic and waste-based fertilisers, wood, terrestrial and aquatic bio-based value chains, packaging, textile, plastics, mobility, logistics, renewable energy use and storage, electrical and electronic equipment, composites, urban planning and use of spaces, building materials, construction and buildings. The totality of the systemic solutions presented by all clusters are expected to address several economic sectors and value chains and involve diverse social and community-based innovation schemes in order to provide the policy-makers not participating to the proposals with a wide spectrum of concrete systemic solutions to be replicated and adapted in other areas. A systemic territorial approach involving several economic sectors and its inclusion in a local or regional circular economy action plan would be an added value.

Each systemic solution must see the active participation of all relevant cluster's stakeholders. It must be based on a detailed analysis of the cluster's circular needs, its current potential, and challenges to be tackled. It shall include project development assistance (PDA) services to build the cluster's technical, economic and legal expertise needed for leading to concrete bankable investments its territorial circular economy projects. PDA is a fundamental service to bridge the gap between circular ideas/plans and the concrete investments for the launch and implementation of the respective projects. PDA should include feasibility studies, stakeholder and community mobilisation, financial engineering, business plans, technical specifications, procurement procedures, etc. Proposals shall justify the budget for the PDA provided to each cluster's systemic solution based on the expected amount of investments to be triggered and the respective leverage factor to be achieved.³

Proposals shall explore synergies with other EU funds, including Cohesion Policy funds, Just Transition Fund and InvestEU, hereby showing pathways to market up take.

³ i.e. amount of investments in each circular systemic solution triggered per each EUR of Horizon 2020 PDA support.

Systemic solutions should support an effective, safe and sustainable symbiosis within and between economic sectors, foster cooperation along and/or across value chains and sectors to identify common challenges/solutions and to help to create critical mass and facilitate public and private investments, include criteria of industrial ecology and eco-(safe by)-design, increase the integration between production, services and consumers, facilitate technology deployment, with special attention to more efficient and sustainable technologies (e.g. advanced and efficient manufacturing processes that enable decreasing the use of energy, raw materials and other natural resources, increasing the use of recycling materials, closing the industrial water, energy and materials loops and reducing GHG emissions and pollution).

Key enabling technologies are part of the deployment of the circular economy and important to address challenges in the implementation of safe and sustainable circular economy solutions. Digital technologies should be used to improve transparency of value flows/circles, ensure data security and boost new scalable business models for circularity.

Each systemic solution must monitor and evaluate the cluster's transition towards a circular economy, identify its strengths and weaknesses as well as their causes, analyse regulatory obstacles and drivers and provide clear and precise policy recommendations to improve related EU regulation (including inputs on standardisation and certification), analyse existing financial schemes and propose concrete options for their improvement. Externalities must be addressed and life cycle assessment (LCA) included in each systemic solutions. Benchmark cost and environmental footprint of each systemic solution must be compared with equivalent linear solutions.

Proposals should ensure the exchange of relevant information and experiences within and across clusters as well as with actors not involved in the proposals. Setting up twinning exercises between the clusters can be efficient ways to facilitate the exchange of good practices and experiences.

The technology readiness level (TRL) at the end of the project should be 8. Proposals should clearly state the starting and end TRL of the key technology or technologies targeted in the project.

Proposals must demonstrate a deep knowledge on relevant EU projects and initiatives on territorial circular economy and circular bioeconomy in order to ensure complementarity and cooperation and avoid overlapping and repetitions.

Targeted impact:

Demonstrate systemic solutions for the territorial deployment of the circular economy at the level of governance closest to citizens:

- demonstrate the technical and economic feasibility of at least one circular systemic solution per territorial cluster;

- identify the economic, social and environmental benefits and challenges of each circular systemic solution;
- contribute to overcome market failures, testing public-private partnership models, interregional cooperation mechanisms and/or multilevel funding synergies useful for de-risking business investments;
- contribute to connect different stakeholders of specific value chains, including key actors of the regional innovation ecosystems and final users;
- provide policy-makers and public and private investors with concrete examples of effective and sustainable systemic circular solutions to be replicated in other areas.

Socio-economic and environmental impact:

- create jobs and new sustainable business opportunities;
- demonstrate contribution to key pathways towards long-term environment and climate goals;
- increase circularity of clusters' economic sectors and social and community-based innovation schemes;
- promote the role of ecosystems services in the circular economy;
- increase the clusters' overall ecosystem, sustainable management of local resources, and reduce GHG emissions;
- promote the use of natural capital accounting into business strategy and decision making to optimise the circular economy;
- promote decoupling economic activity from the consumption of finite resources;
- promote eco-design in businesses and value chains based on local resources.

Replication and scalability of systemic solutions in order to multiply the economic, social and environmental benefits to achieve policy targets of the European Green Deal, EU Circular Economy Action Plan and EU Bioeconomy Strategy at regional, national, European and international level:

- ensure replicability, scalability and visibility of successful systemic solutions;
- facilitate industrial exploitation of demonstrated research results;
- contribute to address bottlenecks such as certification and labelling issues, standardisation and data exploitation;
- contribute to connect SMEs to large companies value chains;
- contribute to connect and upgrade open access circular demonstration facilities across Europe.