CURRENT APPROACHES TO THE CIRCULAR ECONOMY TRANSITION AT EU LEVEL

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Summary

Climate change and environmental degradation are an existential threat to the EU and to the world. To counter these challenges, the European Green Pact has been launched, the new strategy for Europe's economic growth, which will transform the EU into a modern, competitive and resource-efficient economy. The objective of decoupling economic growth from the consumption of natural resources is an important step in continuing efforts to promote eco-efficient economies, with an increased emphasis on the efficient use of natural resources. In this sense, the proposed approach of circular economy aims to reduce the consumption of primary sources in the production process by reusing products, respectively by expanding the share of reused and recycled materials. The main means of achieving this is through increasing the efficiency and productivity of resource use and reducing the quantity of material disposed of. However, to be truly efficient, the circular economy needs industries and businesses to work on new business models that try to "do much with less"; to rethink services and products provided; and to find opportunities to extend the life of products, by improving the ecological design and by selecting materials.

Keywords: *circular economy, resources, sustainable development, economic growth, climate shock, just transition.*

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Introduction. Circularity means managing material, water and energy flows. This concept encompasses the reuse and recycling of products, including buildings, construction materials and waste water based on life cycle assessment and the energy retrofit of buildings. The transition of European economies towards a territorial, circular and carbon-neutral/climate-neutral approach depends on the competitiveness and strengths of local and regional actors. In a globalized economy, this transition requires the establishment of industrial symbiosis processes that combine global competitiveness and local strengths.

The impact of climate change varies considerably between European geographical regions, which are characterized by different degrees of vulnerability. Increased risks from events such as sea level rise, heat waves, forest fires, drought, desertification, other soil and land degradation, floods and other natural and mixed (natural and technical) hazards require coordinated responses, cooperation and policies based on a territorial approach. Climate change mitigation and adaptation

actions can even provide new development opportunities at the territorial level. Such a situation can be found in sectors such as agriculture, bioeconomy, green, blue and circular economies and renewable energy production.

The European Green Deal aims to achieve Europe's climate neutrality by 2050, boost the economy with green technology, ensure sustainable activities in industry and transport and reduce pollution. By turning the challenges of climate and environmental change into opportunities, a just and inclusive transition for all can be achieved.

The European Commission helps EU Member States to design and implement reforms that support the green transition and help achieve the objectives of the European Green Deal. At the same time, it supports the development of procedures needed by central and local administrations by creating the necessary coordination structures for the implementation of green policies.

The main areas where measures are required for the transition to a circular economy

1. **● Climate action and emissions reduction**

Climate action is a central element of the European Green Deal. The EU is already reducing its greenhouse gas emissions by aiming to be climate neutral by 2050, so all member states will need to implement a coherent set of climate policies.

Through the Technical Support Facility, the European Commission helps national authorities to design and implement reforms to support their ambitious climate goals. Here we can exemplify, among others, the following ways of support:

- climate policy development, including advice on climate strategies and action plans and support for greenhouse gas emissions modeling;
- support for land use and forest management, including urban planning, smart cities, forest accounting and inventory;
- improving coastal zone protection and flood and coastal erosion risk management;
- developing nature-based solutions to combat heat waves, drought, floods and air pollution in urban areas;
- the implementation of financing instruments within the EU system for trading emission certificates;
- support for the decarbonisation of electricity systems, including the design of markets and regulatory frameworks favorable to energy from renewable sources;
- developing market-based support schemes for investments in renewable energy and energy efficiency;

- development of national energy and climate plans, including analytical and energy modeling;

- evaluation of policies for heating and cooling systems with low energy consumption;

- increasing investments in the energy efficiency of buildings;

- defining policies regarding sustainable transport/mobility and alternative fuels;

- strengthening transport on inland waterways and high-speed rail lines.

2. ● The sustainable development

The EU is firmly committed to becoming a leader in the implementation of the *2030 Agenda for Sustainable Development*, together with its Member States. The 17 Sustainable Development Goals (SDGs) aim to improve the lives of citizens and protect the planet from degradation so that it can meet the needs of present and future generations. Starting from 2020, the European Commission has strengthened its analysis and monitoring activities of the achievement of the SDGs within the European Semester process. In parallel, member states integrate the SDGs into national policy-making and introduce specific policies to make the transition to more sustainable development. For a better understanding we can mention some ways of support:

- the development of a sustainable development strategy for 2050;

- the development of an action plan for an increased well-being of rural residents and to ensure the economic stability of rural areas;

- the implementation of the sustainable development strategy that integrates the SDGs into the decision-making process at all levels of government.

3. ● The just transition

All EU Member States, regions and sectors of economic activity must contribute to the transition to a climate-neutral economy. However, the scale of the challenge is not the same for everyone. Regions dependent on fossil fuels and industries with high carbon dioxide emissions will be particularly affected and undergo profound economic, environmental and social transformation.

The European Commission is helping Member States to mobilize resources and take measures to ensure specific support for the regions and sectors most affected by this transition. Also, through the Technical Support Instrument (DG REFORM) it supports a considerable number of Member States in the process of preparing their territorial plans for a just transition, each Member State having the obligation to draw up such a plan in order to have access to the funding granted through the Just Transition Mechanism.

DG REFORM supports Member States in the following areas: "greening" budgets and environmental taxes, green procurement, sustainable financing and investment. Among the ways of support we can mention:

- consolidation of green public investments;
- carrying out analyzes regarding the fiscal expenses related to green policies and policies unfavorable to the environment ("gray") and integrating these analyzes into the budget frameworks;
- designing an ecological taxation system and modeling its impact;
- the implementation of the EU guidelines on the "greening" of budgets;
- the development of an action plan regarding sustainable financing for the member states and for the national promotion institutions;
- implementation of sovereign green bond frameworks.

These regions and local authorities have signed the Mission Charter within the European Committee of the Regions – the first forum of the EU mission on adaptation to climate change. Mission Adaptation aims to support at least 150 regions and communities in accelerating their transformation towards climate resilience by 2030. It aims to help these regions and local authorities understand, prepare for and manage climate risks, as well as develop innovative solutions to build resilience.

Achieving a climate-neutral economy by 2050 requires decarbonisation across Europe. The economic, environmental and social costs of this transition are particularly high for the territories and populations most dependent on fossil fuels and for industries that emit significant amounts of greenhouse gases. The objective of the just transition is to ensure that the transition to a climate-neutral economy is achieved fairly, leaves no person and no territory behind, and ensures a high quality of life for all. This requires investments, in the case of territories negatively affected by the transition process, to enable regions and people to cope with the social, economic and environmental impact of the transition to a climate-neutral economy by 2050.

4. ● Research and innovation

Digital technologies have a profound impact on the way we live and work. Member States must have the capacity to capitalize on the advantages offered by the increasingly digitized society and to face the challenges it entails. For this, policies must be developed and innovative solutions implemented to give businesses the confidence, skills and means they need to digitize and grow. For a more productive and greener economy, it is essential to develop a systematic and forward-looking research and innovation strategy, such as:

- strengthening the cooperation between the business environment and the scientific environment, for a better implementation of innovation policies;

- alleviating the capacity deficit faced by research institutes, especially through the exchange of knowledge and best practices;

- increasing innovation performance at the level of small and medium-sized enterprises.

5. Significant investment is needed to "green" public and private funds to achieve the ambitious goal of the European Green Deal. The private sector will play a key role in financing the transition to a green economy. This requires coherent strategies, innovative regulatory frameworks and smart tools. National governments, too, will have a key role in financing the transition process, by sending the right price signals and by reorienting public spending towards sustainable policies. At the same time, national governments must stimulate demand for more sustainable goods and services through green public procurement and reduce the carbon footprint of public services. A robust governance framework will ensure that decision-makers take responsibility for future generations.

The transition to a sustainable digital society can support decentralized and sustainable developments. Digital inclusion, through which people, businesses and territories benefit from digitalization, depends on equitable and affordable access to high-quality internet, next-generation mobile networks and digital skills, while also taking into account such as sustainability and health issues. It is especially about access to electronic governance and electronic services of general interest, which influence the quality of life and the competitiveness of territories.

6. **● Energy**

Europe's citizens and businesses need access to sustainable, secure and affordable energy supplies. This is important for local and regional development. Significant imports from third countries vulnerable to economic or political instability increase energy security issues. The volatility of energy prices and rising emissions highlight the need to identify sustainable and resilient solutions, such as renewable energy, greener and decarbonizes economic activities and other measures to increase energy efficiency and reduce energy consumption. Insufficient energy infrastructure and dependence on existing networks require the diversification of energy production and supply, as well as the development and integration of the energy market.

Decarburizing the energy system is crucial to achieving the EU's 2030 and 2050 climate targets. At the same time, energy must be safe and cheap for household and business consumers. For this to happen, Member States need to transform their energy systems into a fully integrated, digitized and competitive European energy

market based largely on renewable sources. In addition to regulatory reforms, Member States must facilitate and promote further investments in clean energy, including energy efficiency by:

- adaptation of the legislative and regulatory framework to allow the increase in the share of energy from renewable sources;
- the definition of policy measures that promote energy efficiency;
- shaping competitive electricity markets;
- removing obstacles to the penetration of clean energy on the financial and services market;
- supporting strategic planning by modeling energy systems and energy analysis.

7. ● Transport and mobility

The transport sector enables people, services and goods to move freely across the EU. It is a cornerstone of EU integration, connecting people from different regions and making a major contribution to the economy. Demand for transport services continues to grow as economies become more integrated, and this creates both opportunities and new challenges. Transport generates almost a quarter of the EU's greenhouse gas emissions and is one of the main causes of air pollution in cities. Member States are looking for ways to develop smart, sustainable and efficient transport solutions. For this it is necessary to put users first and offer them cheaper, more accessible, healthier and cleaner alternatives by:

- analyzing policies, economic instruments and legal frameworks;
- performing cost-benefit analyses;
- creating models regarding investment scenarios and their effects;
- formulating policy recommendations, action plans and roadmaps;
- develop communication strategies and plans.

Access to intermodal freight and passenger transport is important for all territories in Europe. Efficient and environmentally friendly transport solutions are increasingly important to meet climate, air pollution and noise targets, but also to ensure the accessibility and connectivity of all regions in Europe. This applies both to individual modes of transport and to combine transport. It aims to further improve the links between regional planning and the development of trans-European networks, in particular along the core network corridors. Connecting all territories to the main nodes of the transport network supports international trade links and local development opportunities. The EU Cohesion Policy and the Connecting Europe Facility are important for achieving this goal.

The existence of reliable secondary and local transport networks to ensure interconnection with transnational networks and urban centers is essential for quality

of life and business opportunities. This applies in particular to cities, rural, peripheral and sparsely populated areas, islands, mountainous areas and outermost regions. EU cohesion policy instruments, sustainable urban mobility plans or any other instruments that strengthen integrated territorial or local development are important in this respect and may already be effectively present in the territory.

Physical and digital connections are important for European societies and economies and present major environmental challenges. Therefore, sustainable and safe forms of transport and connectivity are therefore needed, in particular to support priorities aimed at a balanced Europe and functional regions.

● *A healthy environment*

Ecosystems, including agricultural, forest, grassland, freshwater and marine ecosystems, are fundamental to human existence and important for long-term sustainable development. Ensuring that these ecosystems are sustainably accessible to the general public, functional, resilient, strengthened, and healthy and generate income for local people and businesses is a shared responsibility. It thus contributes to mitigating climate change, combating biodiversity loss, ensuring the provision of ecosystem services and raising public awareness of all of the above. Integrated management, which takes into account the different geographical particularities, is particularly important. Developing nature-based solutions and green and blue infrastructure networks connecting ecosystems and protected areas within spatial planning and management and other policies, as well as developing new crisis management tools to whether the safety and resilience of the territories are increased. Risk and disaster management, as well as prevention measures, are important from the perspective of building resilient communities. Respecting the natural limits of Europe's common livelihoods and increasing the resilience of all territories affected by climate change can be achieved by developing local and regional strategies for climate-neutral cities and regions. Possible mitigation and adaptation actions include promoting sustainable land use, open spaces and public green spaces, restoring degraded land and coastal areas, combating deforestation and conserving oceans and water bodies. Other actions can aim at preventing urban sprawl and urban heat islands, building green infrastructure, improving air quality, ensuring no net land acquisition by 2050, strengthening the provision of ecosystem services and improving the integration of land and sea spatial planning. Areas with a rich natural and cultural heritage or with unique landscapes must ensure a balance between nature conservation, sustainable use of natural resources and the process of economic development, including by creating environmentally friendly jobs, by stimulating economic growth and well-being communities or by collaborating with innovative social entrepreneurs.

8. ● The environment and the circular economy

Research studies show that environmental degradation will increasingly affect economic activities. It can produce extreme weather conditions, affect human health and reduce access to natural resources. The European Green Deal covers a number of key priorities, such as protecting the EU's natural capital, transitioning to a resource-efficient economy and protecting people from environmental pressures. Member States are undertaking reforms to address these challenges by further developing their environmental policies and strategies by:

- the definition of waste management policies at national and municipal level;
- the development of national strategies and action plans regarding the circular economy;
- the implementation of some tools for decarbonisations of industries;
- support for water management and monitoring of water-related services;
- support for the regulator of economic activities to assume a key role as a central repository of performance and compliance information.

● *Circular value chains*

The circular economy is an important goal for the transition to a carbon-free/climate-neutral economy. The circular economy aims to close material and energy loops through long-term design, maintenance, and repair, reuse, remanufacturing, upgrading and recycling. Industrial symbiosis processes in regional value chains are important. The tool is designed to help governments identify gaps in the capacity of their enabling environment to plan, deliver, and manage their infrastructure systems. Based on these gaps, the tool can be used to develop a pipeline of projects to build national, state, city, or ministerial capacity using technical and advisory services. The transition of Europe's economies to a model based on a territorial, circular and carbon-neutral/climate-neutral approach has a territorial dimension and can strengthen functional regions. The economic prosperity of territories depends on the competitiveness and creativity of the existing and newly established enterprises operating within them, as well as on the assets, characteristics, traditions, cultural, social and human capital and innovation capacities existing locally. In general, urban areas are better positioned to pick up related trends than sparsely populated areas and inner suburbs that often do not reach critical mass. Cities and towns, as well as areas with a high share of craft activities, could, however, benefit from a circular economy in terms of local and regional repair, reuse and sharing activities.

● *Biodiversity loss and land occupation - air, soil and water quality*

The rapid human-induced loss of biodiversity poses serious risks to ecosystems and long-term living conditions. It affects livelihoods, quality of life and

local economies. Increasing occupancy and use of land and coastal areas, soil impermeability and urban sprawl lead to diminishing open spaces, loss of biodiversity and reduction of fertile soil surfaces while contributing to the creation of urban heat islands that affect the functioning. At the same time, abandoned, derelict and underexploited sites offer potential for changes in land use. Air pollution, noise pollution, contaminated soils and polluted ground and surface water sources cause serious health problems that can have an impact on social inequalities. Disparities in access to clean air, water and soil resources exist not only between countries and regions, but also between urban and rural areas, and within cities and metropolitan areas.

● *Nature, landscape and cultural heritage*

Natural and cultural heritage are assets of local and regional development, which provide unique opportunities for development and a high-quality living environment. Sustainable and efficient use of resources should bring benefits to local communities and promote local business opportunities. However, overexploitation of these assets can pose a threat to a local or regional economy. Urbanization, intensive agriculture and fishing, energy production, mining, industrial activities, transportation and other infrastructure developments can cause serious problems, especially when they are not coordinated. Increased and uncoordinated exploitation of maritime space and marine resources can influence sustainable development, while changes in land use and maritime space, urbanization and mass tourism threaten cultural assets and landscapes and can fragment natural habitats and ecological corridors.

Conclusions. To make better use of Europe's complex territorial assets for the transition to a circular economy, it is necessary to develop local and regional strategies that facilitate the circular economy and that connect local economies to the global economy. These strategies should build on local strengths and innovation capacity, while combining the energy and economic transition processes required for a circular economy based on a territorial approach. Smart specialization strategies and European research and innovation policies such as Horizon Europe or the Joint Programming Initiative "Urban Europe" can play an important role in the transition to the circular economy.

Creating resilient local economies and environmental benefits requires the existence of important local elements such as products, markets, business environments, training activities, entrepreneurship, increased autonomy and strong communities. The existence of diversified economies at the local level contributes to reducing vulnerability to external forces, while supporting energy and economic transition processes. It also envisages strengthening innovation capacities in all

regions, including local strategies for the energy transition and measures taken in sectors such as construction, transport and the bioeconomy.

Europe's regions are witnessing the impact of the climate crisis - from sea level rise to floods or heat waves - and work is currently underway to find solutions that can help protect people and save nature. *Joining this initiative will enable more than 100 regions and communities to become leaders in how local climate action can be achieved.*

The greening of public spaces, the development of water retention systems and the insulation of homes are being pursued, and several cities and regions are already developing innovative ideas to adapt to climate change. From deadly heat waves and devastating drought, to fires and coastlines eroded by rising sea levels, climate change is already taking its toll on Europe. They affect not only the environment and the economy, but also the health of Europeans. The frequency and severity of climate and weather extremes are increasing, so there is a need to accelerate solutions that build resilience to climate change. Research and innovation actions must address rebuilding areas affected by extreme weather phenomena, restoring floodplains, vertical farming, and prototyping insurance approaches or creating a "perfectly adapted" city ready to withstand a storm or heat wave.

The green economy is a universal and transformative change to the global status quo. It will require a fundamental shift in government priorities. Realizing this change is not easy, but it is necessary if we are ever achieving the Sustainable Development Goals.

REFERENCES

Alhola, K., Ryding, S.-O., Salmenperä, H., Busch, N.J., (2019). Exploiting the Potential of Public Procurement: Opportunities for Circular Economy. J. Ind. Ecol. 23, 96–109, https://doi.org/10.1111/jiec.12770

Allen, C., & GAIA (2018). *Europe's Best Recycling and Prevention Program*, http://www.no-burn.org/europes-best-recycling-and-prevention-program-on-the-road-to-zero-wasteblog/

Bawden,T., (2016). Storks give up migrating to binge on junk food in landfill sites, https://www.independent.co.uk/environment/nature/storks-give-up-migrating-to-binge-on-junk-food-inlandfill-sites-a6932916.html.

Blomsma, F., Brennan, G., (2017). The Emergence of Circular Economy: A New Framing Around Prolonging Resource Productivity. J. Ind. Ecol. 21, 603–614. https://doi.org/10.1111/jiec.12603

Damen, M., A., (2012). *A resources passport for a circular economy*.

Lewandowski, M., (2016). *Designing the Business Models for Circular Economy – Towards the Conceptual Framework*. Sustainability, 8(1), p.43,. DOI:10.3390/su8010043.

Mitchell, P., James, K., (2015). *Economic growth potential of more circular economies*. United Kingdom: WRAP, https://www.researchgate.net/publication/284187253, London, 2016.

Velis, C., (2015). Circular economy and global secondary material supply chains, *Waste Management & Research*, Vol. 33(5) 389–391

AMEC & Bio Intelligence Service (2013).'The opportunities to business of improving resource efficiency', http://ec.europa.eu/environment/enveco/resource_efficiency/pdf/report_opportunities.pdf

European Commission, (2017). „Circular Economy: Commission delivers on its promises, offers guidance on recovery of energy from waste and works with EIB to boost investment", http://europa.eu/rapid/press-release_MEMO-17-105_en.htm.

European Commission, (2019a). Circular Economy Strategy – Environment – European Commission. https://ec.europa.eu/environment/circular-economy/index_en.htm .

European Commission, (2019b). GPP Criteria. Backgr. Approach. URL https://ec.europa.eu/environment/gpp/gpp_criteria_en.htm .

https://www.bbc.com/news/business-50868717

https://www.project-syndicate.org/commentary/european-union-green-deal-violates-ecb-rules-by-hans-werner-sinn-2020-01

https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200205_1~cc8a8787f6.en