Circular economy for rural development

Potential in Germany and Europe
(English summary)

Federal Ministry
for Housing, Urban Development
and Building

Region gestalten

The concept of circular economy, as an approach to sustainable development, offers rural areas the prospect of capitalising on their regional strengths and potential for value creation. Within this framework, there exists the potential for job creation and a reduced dependence on primary resources. Notable innovations are currently underway in the rural regions that have been investigated.

A comprehensive examination of 12 case study regions shows that the successful implementation of a circular economy approach depends on effective coordination and networking among motivated stakeholders, as well as the formulation of specific strategies that capitalise on the unique strengths of each region. The study underlines the viability of the circular economy as a development approach for rural regions.

Circular economy in rural areas

Circular economy is a cross-sectoral approach that promotes a sustainable economy. Its aim is to decouple economic growth from the consumption of primary resources and thus to use resources as efficiently as possible in a circular way. This can be done by extending the life and durability of products or by recycling products, materials, and substances. In order to pave the way for the transition to a resource-efficient economy and to generate development potential, the circular economy approach is also relevant as a contribution to sustainable regional development.

The research project "Potentials of the circular economy for rural areas in Germany and Europe" focused specifically on rural regions. German and European case studies were conducted to investigate how circular economy approaches can be implemented in rural regions and what development potential exists. The research project was carried out by Prognos AG and the Institute for Rural Development Research (IfLS) on behalf of the German Federal Ministry for Housing, Urban Development and Building (BMWSB) and the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) between August 2021 and November 2023.

Five German and seven European case examples were selected and analysed using a comparative approach.

In Germany, the following initiatives were analysed:

- BioökonomieREVIER (Rhenish coal-mining area)
- REWIMET (Region Harz)
- Netz-Werk e.V. Mittweida (Central Saxony)
- LaNDER3 (Upper Lusatia)
- Lippe.zirkulär (Region East Westphalia-Lippe)

The European case study areas were:

- Autonomous Community of Aragón, Spain
- Autonomous Province of Bolzano, Italy
- Province of Fryslân, Netherlands
- Jakobstad Region, Finland

- East Netherlands with the Provinces of Overjissel and Gelderland, Netherlands
- Maribor part of Podravje Region, Slovenia
- Region of Central Macedonia, Greece

The general conditions in the case study regions initially suggest a difficult economic development or context. They are characterised by emigration tendencies and a small-scale economic structure. However, the analysis also shows a particular openness to new solutions, especially in regions already undergoing structural change. The openness and enthusiasm for the new, or a critical mass of relevant actors was confirmed as a crucial factor in the transformation process. In some cases, this was reinforced by the need for change, for example in regions affected by structural change. Conservative forces were perceived as an inhibiting factor.

The initiatives for projects can come from different sectors. These can be distinguished between the public sector and regional policy, the private sector, and research-driven clusters. One of the German projects (Netz-Werk Mittweida) is socially motivated. Implementation is always cross-sectoral. In all case studies, shared values and social cohesion were identified as important drivers and success factors for the initiatives. The availability of financial resources and raw materials, underpinned by shared values and a common vision, is also a prerequisite.

Influence of spatial factors

Spatial factors, such as a region's endowment with tangible and intangible resources, are a starting point for tapping into existing potential when developing a regional circular economy. A distinction can be made between primary resources, infrastructure, and the proximity of groups of actors. These factors can be interdependent and need to be considered together.

This is the case where certain resource endowments have led to the establishment of infrastructure, knowledge, and capacities to process these resources, such as bio-economic value chains. The case study regions are therefore also based on existing flows of goods, materials, and resources. These may be primary resources (LaNDER3, Oost-Nederlande, BioökonomieREVIER, Maribor) or secondary resources (REWIMET, Netz-Werk Mittweida). Another alternative is to align activities with existing industries and existing infrastructures (Bolzano, Lippekreis, REWIMET) or to target groups of actors in a specific region.

As the case study regions are guided by the existing raw materials, production and infrastructure in the region and use the potential based on this, region-specific strategy development seems to be more relevant for the success of a systemic circular economy than resource endowment alone.

The gap between supply and demand is of varying importance for material and commodity flows. For example, it plays a greater role in consumer-related markets, such as second-hand goods, than in highly specialised industries, such as electronics. The "critical mass" of raw materials and demand often mentioned in the literature can be achieved in rural areas through supra-regional alliances or social proximity. In particular, the social and spatial proximity of regional groups of actors was seen as particularly important for successful networking. Initial networks are created through personal contacts and trust is built up through physical encounters, thus motivating people to participate.

Development potential for rural areas

The greatest potential of a systemic circular economy lies in the sustainable use of the environment and resources. Regions that have made

a strategic commitment to a systemic circular economy see great opportunities in this development approach to increase the attractiveness of the region due to the growing environmental awareness of the population. One challenge in the regions is the lack of skilled labour. To address this, almost all the case study regions intend to use the systemic circular economy as a development tool. BioeconomyREVIER and LaNDER3 aim to use their approaches to create sustainable jobs, establish innovative value chains and become attractive for young start-ups. Mittweida focuses on the synergy effects for social services in the region. In Jakobstad, the circularity of regional enterprises is explicitly promoted to attract 'young talent'. In the large case study region of Aragon, a university has a systemic circular economy training programme that was co-designed and subsidised by the autonomous region.

A shared vision for the region can strengthen regional identity and raise public awareness. For this to happen, it is important that local people can identify with the strategies and development goals of the region. It is therefore crucial to involve civil society in strategy processes.

Another potential is seen in cross-sectoral collaboration and industrial symbiosis. There is a wide range of opportunities for cooperation between companies in different sectors. Cooperative ventures should increase regional added value and thus make the region more sustainable. While there is great potential for development in this area, networks such as those described above are often not self-sustaining. It takes committed people who understand the needs of local stakeholders to strategically identify the potential and connect them. Networking is not only about bringing people together physically, but also about driving forward projects such as a digital commodity exchange or persuading public procurement to follow circular principles. The particular social proximity (as in Friesland) can be an advantage.

As a result, specific needs at the local and regional rural implementation level have been identified, that can contribute to the successful establishment of circular economy initiatives:

- Strategies for high-level planning and target setting involving all relevant stakeholders.
- Coordination/networking to gather relevant information, understand potentials, connect, and motivate actors.
- Knowledge of regionally available potential, regionally specific material flows (potential knowledge) and methodological/technical knowledge for implementation (transformation knowledge).
- Investment/funding to implement strategy processes, (pilot) projects and to provide the necessary infrastructure.
- Legal framework to create incentives and minimise legal barriers.

These needs provide starting points for further action at various levels. In order to achieve the transition to sustainable development, local stakeholders are called upon to develop joint strategies, to organise networks and create synergies. Regional and economic development authorities as well as research and industry networks can play a key role.

The project has shown that a stronger link between the circular economy and spatial development can be useful to capitalise on existing potential. Based on the project results, the Federal Ministry for Housing, Urban Development and Construction (BMWSB) and the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) will expand their activities and promote circular economy approaches in model regions from 2024 as part of a pilot action to implement the Territorial Agenda 2030.

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