

Exploration challenges of an assessment tool – how to measure the shift towards circularity in six urban regions?

Viktor, Varjú* - Marcin Dąbrowski, Gilda Berruti, Arianne Acke Andreas Obersteg, Alexander Wandl

Keywords: circular economy, regional disparities, circular transition, governance, MFA, awareness

The so-called Earth Overshoot Day has moved up by two months over the past 20 years¹. A resource-efficient Europe can only be achieved with ‘a policy mix that optimises synergies and addresses trade-offs between different areas and policies’². Thus, local authorities, citizens and other stakeholders need a collaborative and science-informed decision environment that allows for developing different waste and resource management options, steer their behaviour towards resource efficiency and assessing their impacts on environmental resilience, spatial quality and the quality of life. Hence, in 2015, the EU introduced its first Circular Economy (CE) Action Plan, and the evaluation of the implementation has released.

In general, circular economy is interpreted as an effort to promote better waste management and resource efficiency with the ambition to pursue the transition towards circular economy with a focus on closing the material flow loops, aiming for ‘zero waste’, generating new business models based on waste as a resource, and deeply transforming society’s approach to consumption and disposal of goods and materials. Those ambitions, however, tend to be watered down when confronted with the multiple governance, economic, legal, socio-spatial, socio-cultural, sociological and behavioural barriers (Dąbrowski, **Varjú** and Amenta 2019). Although sustainable resource management is a global and borderless phenomenon, the actors who participate in resources governance are both governmental and non-governmental institutions and agents from global, national, regional and local levels, each disposing of specific responsibilities and territorial limitations/scope (Bamberg and Möser 2007, Kaiser et al. 2007).

Sustainability transitions – beyond traditional planning and development – require broader engagement, empowerment and breakthrough strategies. The optimised management of transition (that is often cited as ‘transition management’ in the literature) brings together frontrunners from policy, science, business, and society (Wittmayer and Loorbach 2016). As Ghisellini et al. (2016) pointed out, a key aspect of the transition towards CE comes from the involvement of all actors of a society and their capacity for creating collaboration and knowledge exchange.

This paper sheds light on an attempt to assess CE transition from 5 point of view: Governance, Waste awareness, supporting tools (e.g. material flow analysis), sustainability assessment and the built environment. The assessment tool - that will be presented - was elaborated in a four-year-long H2020 project investigating resource management in six peri-urban regions and afterwards, organising workshops with relevant stakeholders. Stakeholders were chosen equally from company, civic, governmental, and academic sectors equally by the leaders of peri-urban living labs in the six case study areas. The paper focuses on the elaborated tools and their tests in Amsterdam, Naples, Ghent, Łódź, Hamburg and Pécs, presenting the regional disparities in the circular economy transition. The paper not only presents the cities of different stages in circular transition, but also presents the difficulties of exploration, the different viewpoints of stakeholders in the peri-urban labs and the workshops. The results show that, although the different stage of the peri-urban regions along the five dimensions can be assessed, a rank can be made, the assessment with stakeholders faces several barriers due to the different disciplinary background, hence the different “culture” of the stakeholders.

¹ Global Footprint Network (2020) *Earth Overshoot Day is August 22, more than three weeks later than last year* [online]

² EC (2011) European Commission, *A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy*

Acknowledgement: the paper is based on research as part of the REPAiR project benefiting from funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 688920.

* senior research fellow, KRTK, Institute for Regional Studies, H-7621 Pécs, 22 Papnövelde Str. e-mail: varju@rkk.hu