

Abstract 8

TRANSITIONING TO CIRCULAR ECONOMY IN EMILIA-ROMAGNA, A PILOT TRIPLE HELIX STUDY

Practical case

Picone S*, Sani D

ART-ER S.cons.p.A. ~ Bologna ~ Italy

Abstract text:

Purpose

The circular economy is a cross-cutting theme stimulating innovation not only in research and businesses, but also in the financial and public administration sectors in order to generate the appropriate context for the transition from a linear to a circular system. A key priority for the European Commission, Circular Economy (CE) as stated in 2015 CE Action Plan, recently updated (European Commission, 2020a), is also a strategic area for the Emilia-Romagna region, the first regional administration adopting an ad-hoc law promoting circular economy (Regional Law nr.16/2015).

Nonetheless, circular economy in the EU is at an early stage. The current system has been developed and optimised for the prevailing linear production and consumption models. This poses a problem for the circular models, which have to contend with the challenge of accessing finance, as the financial sector sees circular projects as highly risky and often not bankable (European Commission, 2019).

For the Emilia-Romagna Region it is useful to identify the technological, regulatory and financial trends that will characterize the next few years. This work aimed at mapping the regional ecosystem on Circular Economy.

Originality and value

This work is a first analysis of the regional innovation ecosystem from the circular economy point of view. A pilot example of how to deal with the theme in its complexity, cross sectoral relevance, and interdisciplinarity, in coherence with the model proposed by the European Commission (DG Research and Innovation) in the work carried out by the "Informal commission expert group on support to circular economy financing" which published the recommendations in "Accelerating the transition to circular economy" in 2019 (European Commission, 2019). The triple, actually quadruple, helix approach followed is an example of an opportunity to achieve innovation outcomes for the socio-economic good through multi-stakeholders collaboration within academia, industry, government, and the financial sector.

Design and methodology

In Emilia-Romagna a network of applied research laboratories operates structured cooperation with industry (High Technology Network), and clusters have been launched on key sectors of the regional economy. Leveraging on this ecosystem, ART-ER coordinated a working group including the regional universities and research centers (10 institutions), business associations (3), multiutilities and recycling consortia (4), and financial institutions (3), with the regional administration who also co-financed the initiative. Research skills, educational offers, ongoing projects and initiatives according to the thematic framework of the circular economy, as proposed by the European Commission (European Commission, 2020b) were mapped via online survey,

These information were combined with the knowledge shared by financial institutions on circular economy projects bankability. Industry perspectives were derived from the Green Economy survey

(Osservatorio Greener, 2018), involving about 2000 companies in the Region. Several national databases were analyzed to identify regional best practices and existing projects, useful as a basis for future strategic and bankable demo cases to be financed by public-private partnership, again a triple helix approach.

Results and findings

The analysis carried out on the research competences in Emilia-Romagna showed that research skills are focused on ecodesign and on waste management and waste valorization. Aspects such as de-manufacturing and new models of consumption appear less pronounced. Excellences are present, such as CERCIS (CEntre for Research on Circular economy, Innovation and SMEs), a research center in support of the transition to circular economy founded by the University of Ferrara. As for research and innovation projects active in the last 3 years (2016-2019), considering European, national and regional projects and direct collaborations with companies, over 430 initiatives related to the circular economy were activated in Emilia-Romagna (Figure 1). The funding sources were almost equally distributed between co-financed European, national and regional projects (202) and direct industry funded (228), for a total value of over 67 million Euros (ART-ER, in press). This value equals the total ERDF 2014-2020 funds investment linked to the Smart Specialization Strategy on innovation projects with impacts on sustainability, that amounts to 60 million Euros (ART-ER, in press). The distribution of projects per topic reflects the distribution of skills, with the majority of projects addressing waste recycling, recovery and valorization.

A crucial element for the business sector with respect to the transition to a greener economy is administrative simplification and regulatory clarification. Additionally, the high investment costs to adapt production processes or products to more sustainable/circular standards are perceived as a relevant barrier (Osservatorio Greener, 2018),.

Attention to Environmental, Social & Governance issues by banks and financial operators is growing strongly in Italy. Currently, the majority of Italian banks have developed specific procedures for assessing bankability and evaluating environmental and social risks (79 % of the sample for project financing operations, 69% instead for operations above a certain threshold). Financial institutions increasingly consider the circular economy as a strategic investment, as shown by the 5 billion euros platform for the circular economy created by Intesa San Paolo in 2019 and by the investments in social circular projects made by Banca Etica

Impact

The analysis showed available skills, strategic objectives, ongoing initiatives, obstacles and development opportunities which help defining future strategies and innovation policies with impacts on economic and social development towards circular and sustainable models. Two sectors have been identified by the working group as main target for future initiatives concerning the circular economy: the plastic (including packaging) and the textile sectors. Also, special attention will be paid to the upgrading of the learning pathways to support the transition at any level of qualifications (i.e. Higher Degree courses or Vocational Educational Training).

At European level, the Circular Economy Finance Support Platform will continue to offer guidance to project promoters on circular incentives, capacity building and financial risk management.

Transferability

The transferability has been tested through the piloting activities designed by the project REINWASTE, financed under the framework of the INTERREG MED programme. These activities showed that the proposed model can be easily transferred to other contexts, thematic focuses and industrial sectors.

Acknowledgments

The authors are grateful to the institutions supporting this study, specifically the project Reinwaste - Remanufacture the food supply chain by testing Innovative solutions for zero inorganic waste (<https://reinwaste.interreg-med.eu/>), financed by the European Commission INTERREG MED programme.

Owner:

ART-ER Attractiveness Research Territory is the Emilia-Romagna Joint Stock Consortium Company with the purpose of fostering the region's sustainable growth by developing innovation and knowledge, attractiveness and internationalisation of the territorial system. ART-ER Research and Innovation Division promotes industrial research as the main driver of sustainable economic development and collaborates with company associations to develop joint research and corporate strategies and actions, facilities and services for industrial research, and the enhancement of human capital working in these areas.

Geographical origin:

Italy, Emilia-Romagna, Bologna

References (Harvard style):

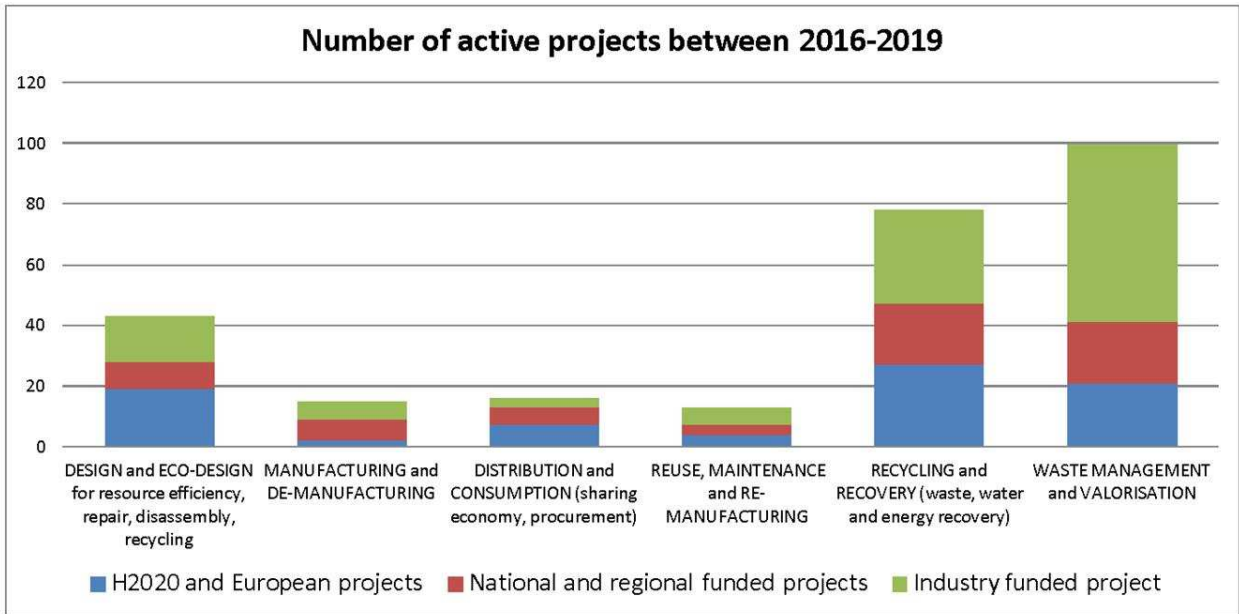
European Commission 2020a, Communication from the commission to the european parliament, the council, the european economic and social committee and the committee of the regions. A new Circular Economy Action Plan For a cleaner and more competitive Europe. COM/2020/98 final
European Commission 2020b. Categorisation System For The Circular Economy - A sector-agnostic approach for activities contributing to a circular economy. March 2020 doi:10.2777/172128

Emilia-Romagna Region, 2015. Regional Law 05 october 2015, n. 16. Disposizioni a sostegno dell'economia circolare, della riduzione della produzione dei rifiuti urbani, del riutilizzo dei beni a fine vita, della raccolta differenziata e modifiche alla legge regionale 19 agosto 1996 n. 31

European Commission, 2019. Accelerating the transition to the circular economy – Improving access to finance for circular economy projects. March 2019 doi:10.2777/983129

ART-ER, in press. Accelerare la transizione verso l'economia Circolare In Emilia-Romagna - Uno studio sullo stato dell'arte, le competenze e i bisogni tecnologici e finanziari. Available online

Osservatorio Greener, 2018. La Green Economy in Emilia-Romagna, December 2018 http://www.ervet.it/wp-content/uploads/downloads/2019/01/Ervet_Volume_Green_Economy_WEB_rev.pdf



TRANSITIONING TO CIRCULAR ECONOMY IN EMILIA-ROMAGNA, A PILOT TRIPLE HELIX STUDY	1
---	---

Authors' Index (page numbers)

P

Picone S.1

S

Sani D.1