

Appendix 3

Research and Development in the ECIV Regions

Dalarna/NMS in collaboration with WSP

2025-03-03

Project No. 101161155. Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor the granting authority can be held responsible for them.



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Contents

The purpose of this report is to show, and discuss, results from a compilation of research in the nine ECIV regions.

- **Focus:** Identifying prevalent focus and topics of existing and ongoing research in the nine regions

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Approach & Method

Research

To identify existing and ongoing research in the nine ECIV regions, three main approaches have been used, shown to the right.

The focus has not been to read and compile insights from the research identified, but rather to identify focuses, themes and topics.

The results should be interpreted as *indications* of existing and ongoing research in the regions.

Universities

- **Identifying universities** located in the nine regions
- Searching **university websites** to locate relevant faculties, projects, literature

Co-Pilot

- **Asking questions** such as *"what faculties at university X work with circular economy?"*, *"which topics or themes are prevalent for research within circular economy in university X?"*
- **Confirming** information output manually

Literature search

- Searching **Google Scholar** and other search engines with key words such as *"circular economy university X"*, *"circular economy region X"*, *"circular economy professor x"*

Regional (& National level)

North Middle Sweden

Existing and Ongoing Research (1/2)

University of Gävle (Högskolan i Gävle)

- Conducts research within Environmental Science, where resource management is a thematic area. Studies on e.g. circular business models, waste management, and recycling infrastructure – with broader scopes and in certain sectors such as construction, manufacturing, energy, and transports.
- Ongoing research projects relating to circular economy include “GENIUS” (focusing on industrial and urban symbiosis in the region), and “Ökad cirkularitet” / Increased circularity (investigating opportunities for increased circularity of goods, textiles and construction materials)
- Previous research projects relating to circular economy include “Crea-RE” (2018–2020, focusing on resource efficiency and circular economy within universities), and “Rutbeck” (2019–2021, focusing on how Swedish regions can prepare for circular transitions)

1/2

Karlstad University (Karlstad universitet)

- Conducts research primarily relating to circular bioeconomy, where ongoing research projects include “Pro2BE” (interdisciplinary research program focusing on the transition to a bioeconomy based on renewable resources and the development of the forest industry), and “WoodVALOR” (EU project focusing on sustainably converting used wood into high-performance paints, coatings, and biochar)
- Other examples of research within circular economy e.g. relate to Consumer Psychology and Innovation (e.g. within the project Rundgång, a recycling mall)
- A new research project has recently started up, “Interregional Circularity in Central Scandinavia”, focusing on promoting sustainable growth and innovation in Värmland and Norwegian Innlandet

North Middle Sweden

2/2

Existing and Ongoing Research (2/2)

Dalarna University (Högskolan i Dalarna)

- The Sustainable Energy Research Center (SERC) integrates various research areas such as energy, sustainable construction, urban planning, computer science, industrial and materials engineering, economics and social sciences. Studies have been conducted on e.g. improving circular principles within buildings, sustainable renovations, and energy-positive neighbourhoods
- Ongoing research projects include “Opportunities and tools to improve circularity in large cross-laminated timber (CLT) buildings”, “More efficient test environments in the construction and real estate sector”, “Synergize building renovation and regenerative urban furniture to co-create PED ecosystems”, and “Linking SDG compliance for balanced energy-positive neighborhoods”

Northern Netherlands

Existing and Ongoing Research

University of Groningen

- Conducts research within the faculties of Economics and Business, and Science and Engineering, e.g. on logistics of biomass and biogas within a circular economy, circular business models, and circular economy practices in the hospitality industry
- Grants are being allocated for further research aimed at advancing more sustainable practices in various areas of circular agriculture

NHL Stenden University of Applied Sciences

- Professorship of Circular Plastics, working on several projects to achieve innovations in the field of circular plastics
- Professorship of Sustainability in Hospitality and Tourism, e.g. the project "Circular Economy in Hospitality"

Hanze University of Applied Sciences

- Conducts research primarily through its Research Centre Biobased Economy, e.g. a professorship relating to transition towards a circular economy
- The Interreg Europe project WEEEWaste focuses on improving policies for waste management of electrical and electronic equipment

Van Hall Larenstein University of Applied Sciences

- Applied research group collaborating on sustainable regional transitions and nature-inclusive circular agriculture
- Research project on circular water in the neighbourhood

Scotland

Existing and Ongoing Research

University of Glasgow

- Leads the “Responsible Electronics and Circular Technologies Centre” (REACT) which focuses on advancing sustainable electronics through innovative research and development
- Hosts the Centre for Sustainable Solutions, which offers courses and conducts research on sustainable business models for a circular economy

University of Edinburgh

- Hosts various research projects and centers dedicated to sustainability and the circular economy, focusing on areas such as design for durability, material efficiencies, plastics recycling, and circular business models

University of Sterling

- Collaboration with Zero Waste Scotland exploring the ways in which conditions need to improve if Scotland’s economy is to become more circular and businesses are to achieve the resultant benefits

Heriot-Watt University ...

- The project “A Circular Scotland in Europe”, together with several other institutions, focusing on overcoming post-Brexit challenges to deliver on internationalisation, circular economy and sustainability
- The iNetZ+ Net Zero and Beyond is a global research institute at Heriot-Watt University, dedicated to achieving net-zero carbon emissions and advancing sustainable practices, e.g. research projects within circular materials, green business and finance, manufacturing and industry

The University of Strathclyde

- The university has two prominent research focuses: Waste, Energy & the Circular Economy (covering topics such as the reuse of organic wastes, recycling of soils and sediments, and the recovery of hazardous wastes), Triple Helix and the role of networks of innovation (examines how partnerships can drive sustainable development, and e.g. focuses on the conservation and sustainable use of resources, linking these efforts to the circular economy)

Gabrovo

Existing and Ongoing Research

The Technical University of Gabrovo

- Hosts programs in engineering, technology and economics, where research regarding circular economy is primarily found within the Faculty of economics
- Research focus mainly the reuse of waste material, where studies have been conducted on closed-loop production systems, the 6R principles (Reduce, Reuse, Recycle, Recover, Redesign, and Remanufacture), and the structure and dynamics of patent activity in the field of reuse of waste materials
- Associated strategic partner of the Circular Innovation Hub (CI-HUB), a collaborative initiative aimed at enhancing the innovation potential in less developed regions by promoting circular economy practice

Normandy

Existing and Ongoing Research

EM Normandie

- Is deeply involved in advancing the circular economy through its European Chair of Excellence on Circular Economy and Territories
- The chair focuses on several key areas, including e.g. The drivers and barriers to the circular transition; Identifying and highlighting inspiring projects in responsible consumption, reuse, recycling, and waste valorization across Europe; Circular business models
- The chair also promotes circular economy through awareness-raising, and advocacy, offering training and workshops to support the circular transition

Université de Rouen Normandie

- Research in sustainability and environmental sciences, which can encompass aspects of the circular economy – mainly relating to Industrial and Territorial Ecology, and Energy

Lithuania

Existing and Ongoing Research

Kaunas University of Technology

- Current project includes “CEPOC” (Managing Paradoxical Tensions and Developing Organizational Capabilities in a Circular Economy), which focuses on understanding and managing tensions that arise in organizations transitioning to a circular economy
- Previous research has e.g. focused on circular business models (e.g. in manufacturing industry), sustainability reporting and management, and circular design and interdisciplinary networking

ISM University of Management and Economics

- Member of the “Circular Economy Alliance”, which implements circular economy projects globally
- Engaged in the EU project “POP-MACHINA”, which aims to enhance circular economy through collaborative production – ISM researchers are studying consumer behavior to encourage the use of circular economy items

Vilnius University

- Engaged in the “CIRCLE” project, which aims to promote sustainable and circular use of bioresources across agriculture, forestry, and aquaculture in the Baltic-Nordic region – VU researchers are studying consumer behaviour and ethical perspectives on the circular economy

Vytautas Magnus University

- Specializes in environmental sustainability and the application of circular economy practices in agriculture, bioeconomy and rural development

Navarra

Existing and Ongoing Research

University of Navarra

- Institute of Biodiversity and Environment focuses on integrating sustainability and circular economy principles into various aspects of society and the economy
- Some key areas of research include Sustainable and Biodegradable Materials; Waste Valorization; Circular Biotechnology; Water Treatment; and Sustainable Urban Planning

Public University of Navarra

- Chair of Transfer and Innovation in Circular Economy

Generation of knowledge in the area of the circular economy, allowing the integration of the academic and business worlds, promoting conditions that favor the conduct of advanced research and the transfer of knowledge related to this area to the productive sector

Support is provided for the completion of doctoral theses and final projects (undergraduate and master's degrees), and the granting of scholarships and awards for the development of research and work related to the circular economy will be promoted.

- Master in Circular Economy

Acquire multidisciplinary training, from scientific and technical to economic and legal aspects, essential for implementing circular economy principles in public and private companies and institutions.

Helsinki-Uusimaa

Existing and Ongoing Research

University of Helsinki

- Institute of Sustainable Science (HELSUS) conducts research on circular economy – e.g. the project “recycling Waste Electrical and Electronic Equipment” (WEEE)
- Research group in chemistry of circular economy investigates conversion technologies for better implementation of circular economy
- Other areas of research include bioeconomy, food and agriculture, and engaging citizens in the circular economy

Aalto University

- The Department of Management studies have two ongoing projects: “FINIX” and “Circular Design Network”, focusing on sustainable textiles
- Research group on “Circular Biobased Materials”
- “The Circular Raw Materials Hub” was a collaboration with the Geological Survey of Finland, and VTT

Laurea University of Applied Sciences

- Service Business and Circular Economy RDI Platform – focusing implementation of business ecosystems
- Projects that aim to improve the reuse of textiles and reduce textile waste in the textile market, e.g. “Baltic2Hand”
- Projects that aim to reduce food waste and utilise it more efficiently, e.g. “Food waste ecosystem”

Wallonia

Existing and Ongoing Research

Université catholique de Louvain (UCLouvain)

- Research particularly in Engineering and Environmental Science, e.g. studies on developing circular business models, promoting sustainable practices, and addressing environmental justice issues, and exploring the role of stakeholders in this process.
- One of their ongoing research projects is “Analysing and Identifying the Circular Economy’s contribution to a just Transition” (AICE-T).

Université de Liège (Uliège)

- Involved in projects focused on waste management, resource efficiency, and sustainable production
- One of their ongoing research projects is “UniGR-CIRKLA”, which aims to efficiently manage critical raw materials and promote recycling of technological resources and waste



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