



Plastic, Packaging

Strategies to solve the problem of hardly recyclable Packaging Materials



Bio-Waste

Extracting valuable compounds from different Bio-waste streams



Water

Water Symbiosis Strategies in Industry, Agriculture, and Urban contexts



Demonstrator 2

Reclaimed urban water use in agriculture and utilities
PODRAVJE REGION, SLOVENIA (CCRI REGION)



Circular
Cities & Regions
Initiative



UK Research
and Innovation



Funded by
the European Union



Start 2024



36 mo



€ 10.24 M



32 partners



9 pilots /
8 regions



About CircSyst

Resource extraction is responsible for nearly half of global greenhouse gas emissions and the vast majority of biodiversity loss. With 90% of world economy still linear, plastics, water and bio waste are treated as single use commodities rather than valuable resources. The CircSyst project addresses this challenge by developing Circular Systemic Solutions (CSS) that drive sustainable, circular economic models.

Over 36 months, 32 partners led by AIJU will run nine large-scale pilot systems spread across eight European regions, targeting three priority value chains from the EU Circular Economy Action Plan: water management, bio-waste valorisation, and plastics & packaging. The pilots exchange by-products and know-how so that, for example, a plastic fraction recovered in Greece can feed a recycling line in Spain. In this way, CircSyst forms an industrial-symbiosis network that supports the EU's Circular Cities and Regions Initiative (CCRI) and provides replicable and scalable solutions.



Reclaimed urban water use in agriculture and utilities

DEMO 2 explores innovative ways **to reuse treated urban wastewater for agriculture and utilities**, helping to create a truly circular water system. A pilot device with advanced membrane purification and ozonisation technology is being installed at the central wastewater treatment plant in Ptuj to **clean municipal wastewater** to a safe and high quality standard.

The **purified water will be tested** on various vegetables and agricultural uses, from irrigation and indoor farming to drinking water for livestock, washing, and other purposes. By developing and demonstrating these processes, DEMO 2 aims to show **how wastewater can become a valuable resource** that reduces pressure on freshwater supplies and creates sustainable solutions for agriculture.

Who is involved?

As the coordinator of DEMO 2, **Regional Development Agency of Podravje – Maribor (RDA Podravje)** is the main regional agency supporting the development of the Podravje region. Its main contributions to waste and wastewater management include driving the region's circular bioeconomy strategy and fostering the adoption of sustainable practices.

As the main public utility company in Ptuj, **Komunalno podjetje Ptuj d.d** provides essential services such as water supply, wastewater and waste management, and infrastructure maintenance. With its expertise, the company plays a central role in testing and applying CircSyst's innovative water management solutions in practice.

Agricultural Institute of Slovenia (KIS) is Slovenia's leading agricultural research institute, tackling modern farming challenges and advancing environmental protection. Within CircSyst, it tests the safe use of treated wastewater for irrigating crops like strawberries, peppers, onions, and carrots, paving the way for sustainable irrigation practices.



Innovative ways of reusing treated urban wastewater

Wastewater becoming a valuable resource

Circular water systems

Sustainable solutions for agriculture



PARTNERS



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