

Methodology and preliminary analysis for TCA, LCA, LCSA and circularity assessments of each site (D5.1)

This deliverable presents a preliminary assessment of the demo cases of R3VOLUTION, focusing on the methodologies and preliminary results of the Techno-Economic Assessment, Circularity Assessment, Life Cycle Assessment, Social Life Cycle Assessment, and Life Cycle Costing Assessment.

What is the deliverable about?

The document provides a detailed description of the methodologies selected and applied for each assessment dimension. Moreover, preliminary results were measured for the demo cases. In addition, a prospective analysis of the climate and market conditions for water and energy resources in the four regions where the demo cases are located is presented.

Why was this done?

The deliverable was developed to present the methodologies applied for the Techno-Economic Assessment, Circularity Assessment, Life Cycle Assessment, Social Life Cycle Assessment, and Life Cycle Costing. In addition, the preliminary assessment identified the potential benefits and hotspots of the R3VOLUTION demo cases, supporting process optimization and informed decision-making during the next stages of the project.

What is the outcome?

Deliverable 5.1 provides a first understanding of the techno-economic, environmental, social, economic, and circularity performance of the demo cases of R3VOLUTION. The assessment identified key parameters and processes that are sensitive and have potential for further optimization. Furthermore, the prospective analysis provides insights into future climate and market scenarios across the four demo case regions in which the R3VOLUTION demo cases may contribute to improve water and energy resource management under different future conditions.

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