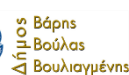




LIFE-IP CEI-Greece
Circular Economy Implementation
in Greece
LIFE18 IPE/GR/000013



Deliverable C2.D2 2nd Biennial Circular Economy Review



Executive Summary

The **Hellenic Circular Economy Observatory** serves as the official national mechanism for monitoring Greece's transition towards a sustainable and circular economic model. Its mission is to systematically collect, analyze, and present data related to resource use, waste generation and management, recycling, and the use of secondary raw materials, thus providing a comprehensive and evidence-based picture of the country's performance in implementing circular economy principles.

This **Second Biannual Progress Report** presents updated results and analysis based on the six thematic pillars adopted within the national monitoring framework: **Production and Consumption, Waste Management, Secondary Raw Materials, Competitiveness and Innovation, Energy and Climate, and Water**. The indicators align with the **EU Monitoring Framework for the Circular Economy** and the **New Circular Economy Action Plan (2021–2025)** under the **European Green Deal**, while also reflecting the priorities and measures of Greece's national strategies, including the **National Waste Management Plan (NWMP)**, the **National Waste Prevention Program**, the **National Plan for Green Public Procurement**, and the **National Energy and Climate Plan (NECP)**.

Methodological Approach

The selection and design of the indicators were based on their policy relevance, data availability, and consistency with EU methodologies. Data were derived from official statistical sources such as ELSTAT, Eurostat, and competent national authorities, ensuring transparency, comparability, and reliability. The report provides a time-series analysis, highlighting trends for 2020–2024 and evaluating the relationship between indicator performance and policy implementation.

Key Findings per Thematic Axis

Production and Consumption:

Indicators suggest gradual progress in sustainable resource use and material efficiency. Resource productivity (EUR/kg) has steadily increased, reflecting improvements in economic output per unit of material consumed. However, the per capita material consumption remains relatively stable, showing the need for further decoupling of growth from resource use. The share of Green Public Procurement (2.1% of total contracts, equivalent to 0.23% of GDP) demonstrates initial implementation progress but indicates room for scaling up circular criteria in public tenders.

Waste Management:

Although municipal waste generation per capita remains stable, efforts toward recycling show mixed results. The recycling rate of municipal waste remains around 17%, while construction and demolition waste (CDW) recovery reached 63% in 2022. Packaging waste recycling exhibited declines across most material categories between 2021 and 2022, partly due to market and system inefficiencies, whereas high performance was observed in end-of-life vehicle recovery (79.4%) and tire recovery (99.9%). Food waste

generation remains steady at around 2 million tons per year, with household-level prevention still being a challenge.

Secondary Raw Materials:

The circular material use rate increased to 6.3% in 2022 before slightly declining to 5.2% in 2023, indicating that while recycling systems are expanding, integration of secondary materials into production remains limited. Imports and exports of recyclable materials—both intra- and extra-EU—show a stable flow, particularly for ferrous and non-ferrous metals, underscoring Greece's active participation in the European secondary materials market.

Competitiveness and Innovation:

Greece's performance in the **Eco-Innovation Index** has improved steadily, reaching 91 in 2024 (EU=100), with strong progress in resource efficiency and eco-innovation implementation. However, patent activity related to recycling and secondary raw materials remains modest (0.5 patents in 2020), highlighting the need for further support in R&D and industrial symbiosis. Employment in circular economy sectors stands at around 1.5–2% of total employment, comparable to the EU average.

Energy and Climate:

Energy intensity continues to decline (111.86 KGOE/€1,000 in 2023), while the share of renewable energy in final consumption rose to 25.3% in 2023, reflecting strong policy alignment with the NECP. Greenhouse gas emissions intensity from energy consumption decreased to an index of 66.7 (2000=100), confirming the decoupling of energy use from emissions. Emissions from the waste sector, however, remain stable at approximately 6,200 thousand tonnes CO₂eq annually, signalling the need for expanded biogas recovery and improved landfill management.

Water:

The water exploitation index (WEI+) fluctuated between 9–14% in the period 2020–2022, indicating moderate pressure on water resources. Water productivity increased significantly from €17.25/m³ in 2020 to €23.93/m³ in 2023, reflecting improved efficiency in water use across sectors. These results confirm that water management policies contribute to sustainable resource use while maintaining economic output.

Conclusions and Outlook

The findings of this second report demonstrate that Greece continues to make gradual progress in its circular economy transition, with notable achievements in **energy efficiency, renewable energy integration, waste recovery of specific streams, and eco-innovation performance**. Nevertheless, challenges persist in scaling up **recycling rates, enhancing the market uptake of secondary raw materials, and fostering innovation and investment in circular business models**.

The evolution of indicators reveals a country that is consolidating its institutional framework and aligning its policies with European objectives, yet still in an early phase of

systemic transformation. Strengthening the link between policy design, implementation, and measurable outcomes—along with the expansion of reliable data sources—will be crucial for Greece to accelerate its transition towards a fully circular and climate-neutral economy in the coming years.