

Circularity for the construction sector



EU context

Resource usage in the construction sector accounts for **50% of the EU's total material extraction** and is responsible for more than **35%** waste streams in the EU. In addition, as of 2021, the estimated level of **circularity for the construction sector in the EU is of only 12.4% material use rate**, which means that over **87%** of material is wasted. On a wider level, data suggests that **only 8.6% of the 100 billion tonnes of materials which enter the global economy every year are upcycled**, thus needing urgent action both at the policy-levels and the process industries.

The **Circular Economy Action Plan (CEAP)** is the European's agenda for sustainable growth, bringing legislative initiatives and strategies to create a more sustainable and resource-efficient economy by targeting aspects for the reduction of the use of primary raw materials. The **Processes4Planet Partnership (P4P)** is also working to implement actions that transform process industries to achieve circularity and overall climate neutrality at the EU level by 2050.



Facts



In 2018, the construction sector accounted for **36%** of final energy use and **39%** of energy and process-related CO₂ emissions.

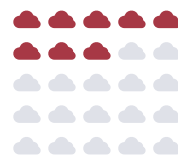


In the Netherlands, secondary materials represent only **3-4%** of all materials used in buildings.

813 Mt



In 2018, the total waste generated in the EU by the construction industry was roughly **813 million tonnes**.



-72% GHG

The International Resource Panel estimates that material efficiency strategies would reduce natural resource use by **28%** and GHG emissions by **72%**.

Resources

- [Buildings and Construction, European Commission](#)
- [Circular Economy Action Plan, European Commission](#)
- [Processes4Planet](#)
- [Circular Economy: What, Why and How in Construction](#)
- [STRATEGY FOR SECONDARY RAW MATERIALS - 2016, European Parliament](#)

Project Overview



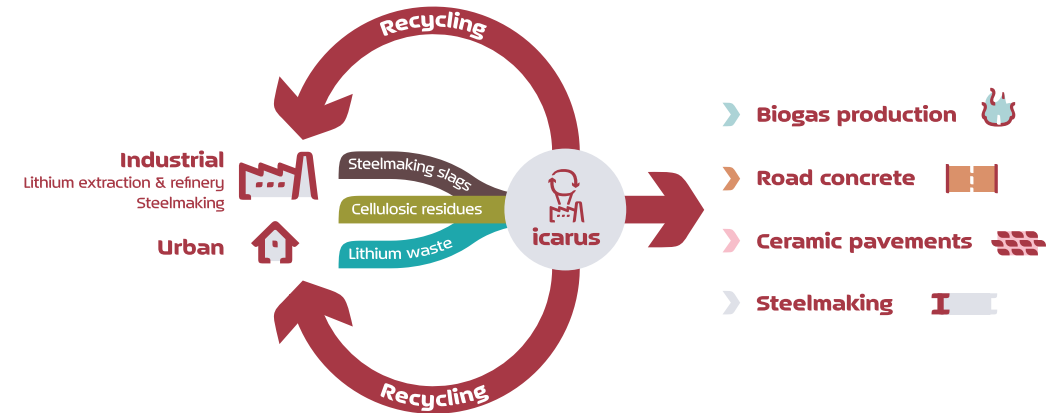
About

ICARUS aims to provide technological support to energy-intensive and construction industries for the transition to more sustainable and digital processes in a business model for successful market implementation.

By fostering collaboration across key industry players, recyclers, public authorities, and standardisation actors, ICARUS will contribute to a circular, green economy.

The project is at the forefront of advancing circular economy principles through groundbreaking research and innovative technologies that upgrade **Secondary Raw Materials (SRMs)** so they match the quality of primary raw materials, and it will support energy-intensive and construction industries by making them key players in the shift towards greener and more digital processes.

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Partners



Keywords

- Circular economy
- Construction sector
- Process industries
- Upcycling waste material resources
- Secondary raw materials
- Sustainability
- Climate
- Industry uptake
- P4P process industries

KEY FIGURES

- 7 countries
- 18 partners
- €9,768,063.00 budget
- 48 months of duration

CORDIS: ICARUS. Increasing circularity in process industries by upcycling secondary resources
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