



INERTWASTE

Use and immobilisation of waste and secondary raw materials in Slovenia in construction sector

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ZAG - who we are?

- The public research institute /250 employees
- Structure:
 - Department of Materials
 - Department of Structure
 - Department of Geotechnics and Infrastructure
 - Department of Building Physics
 - Department of Fire-safe Sustainable Built Environment
- Services: certifications, technical approvals, EPD, strategic research innovation partnerships





Best practice: LIFE IP RESTART

Boosting Waste Recycling into Valuable Products by Setting the Environment for a Circular Economy in Slovenia

Slovenia: Discover the Value of Waste (2022-2030)

The integrated project Restart, co-financed by the European Union as part of the LIFE program.

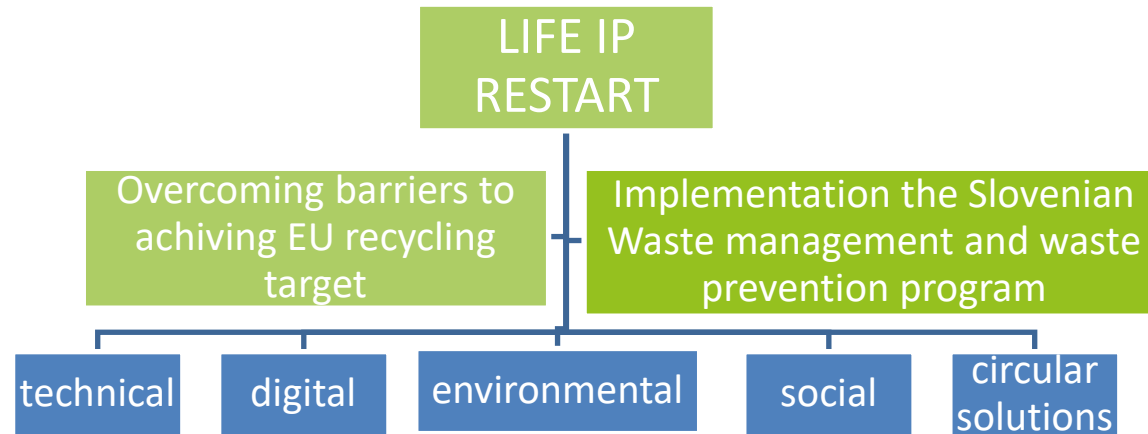
Coordinator of the project: MECE
(The Ministry of the Environment, Climate and Energy)

Partners: 15





Best practice: LIFE IP RESTART



WHY?

Unlocking all the program's potential, achieving maximum material self-sufficiency, and increasing circular yield in the waste and resources sector.



Best practice: LIFE IP RESTART

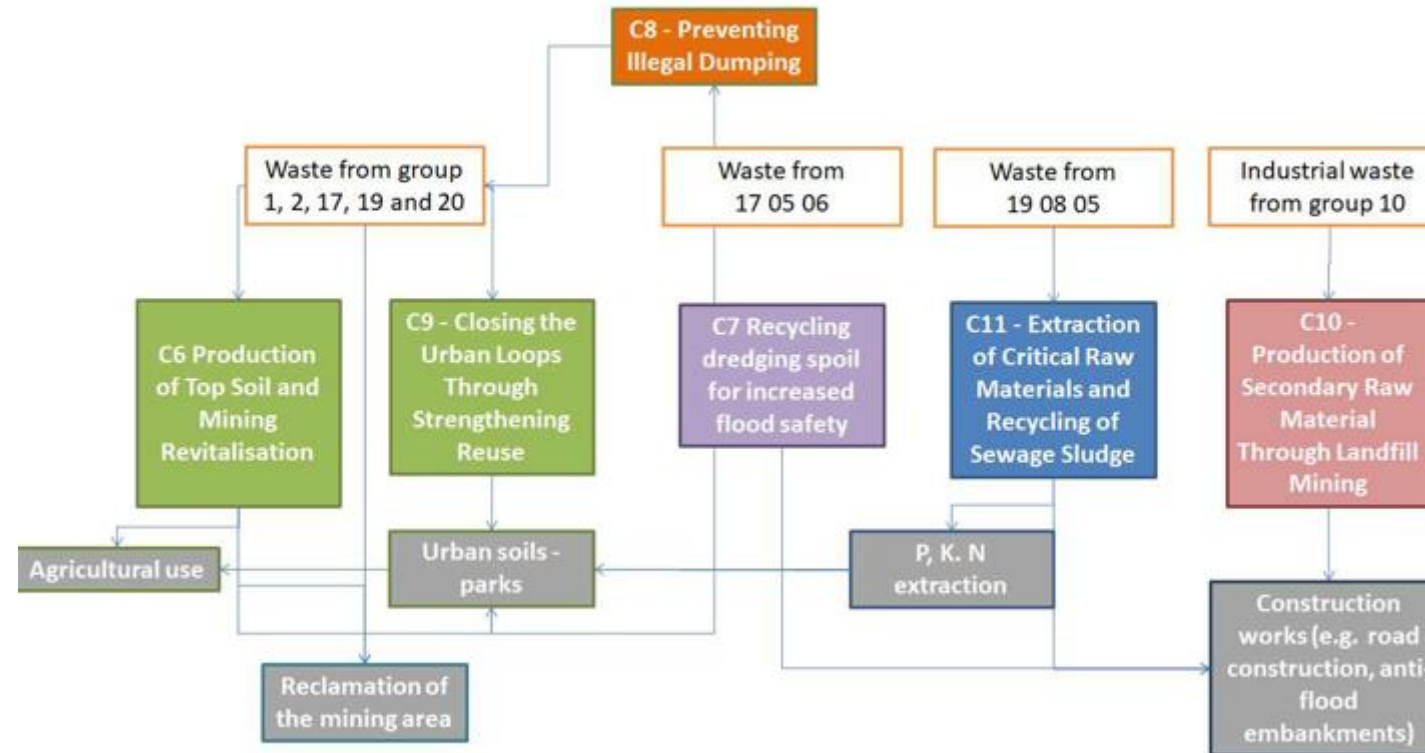
Three specific objectives





Best practice: LIFE IP RESTART

PILOT ACTIONS: : *large-scale demonstrations with their interrelations*



Best practice: LIFE IPE RESTART



The Large-scale demonstration action will contribute to the implementation of the measures:

1. the waste prevention
 2. measures of waste management
- The main aim of these actions is to demonstrate the practical and economic feasibility of using products from Secondary Raw Materials (SRM), i.e. recycled waste, thereby promoting sustainable waste management practices.
 - Lessons learned from large-scale demonstrations will be used as the best practices to encourage similar recycling practices among the value chain actors and shift stakeholders' mentality from "not worth it" into "persuading circular business cases".
 - Pilot demonstrations will raise awareness, train and build capacity, and adjust/fine-tune the existing legislation.

<https://life-restart.si/en/>

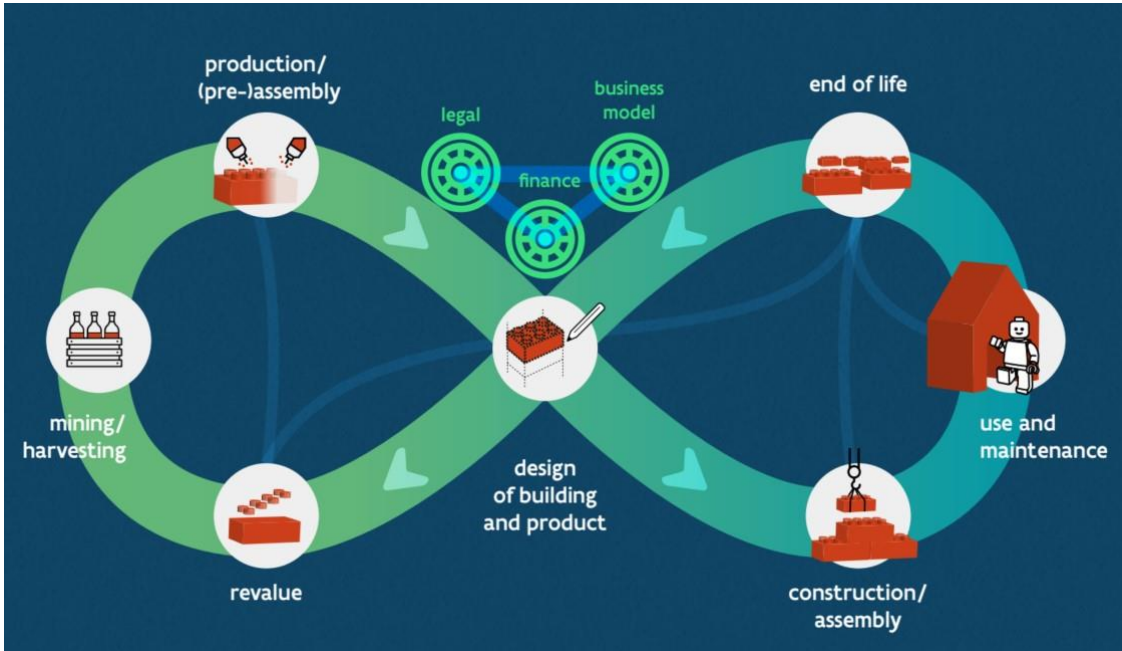


Best practice: LIFE IP RESTART

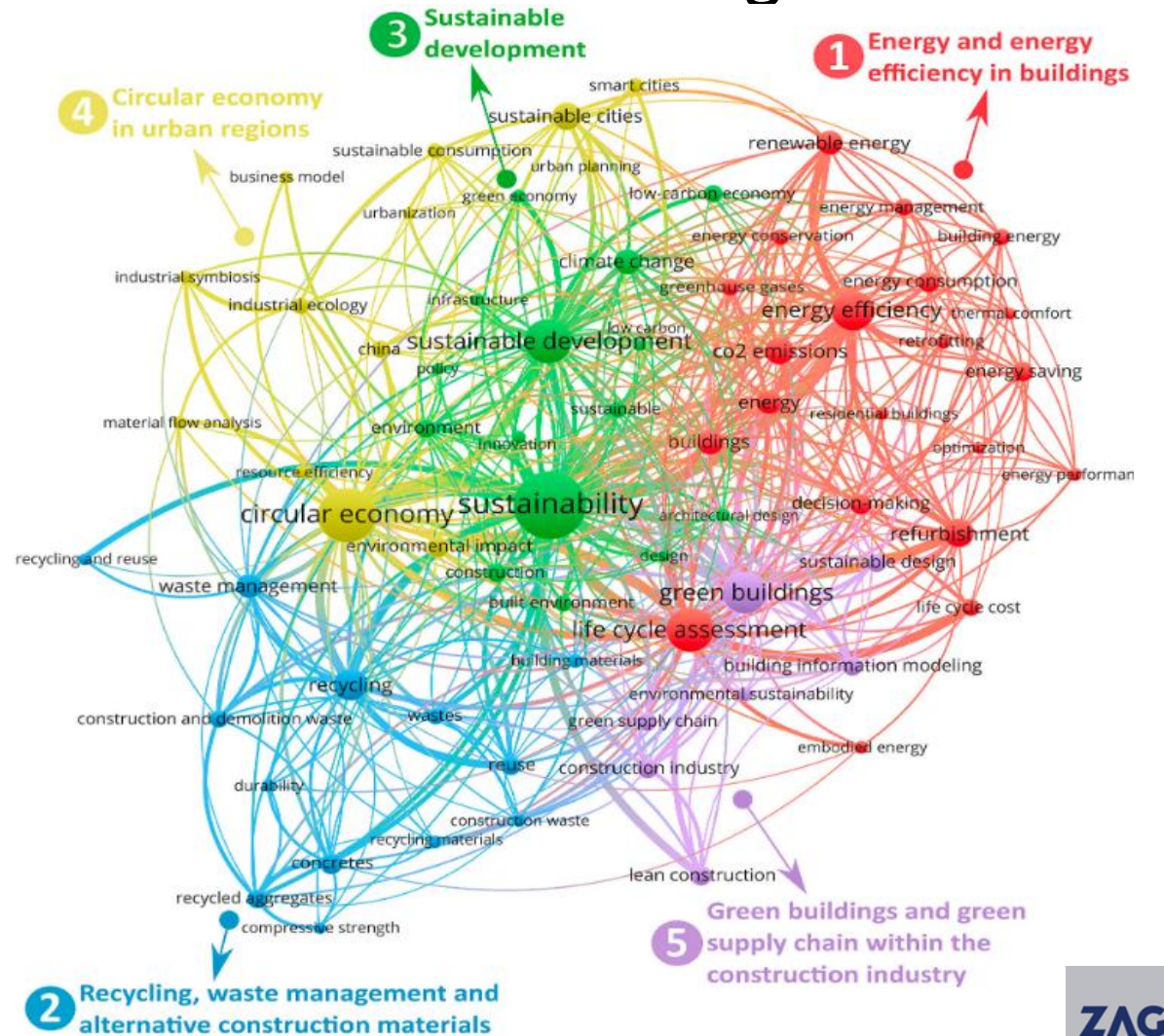
Project goals

- ❖ Reduce CO2 emissions by 20% through improved handling.
- ❖ Increase recycling by about 18% (2% per year).
- ❖ Recycling of 50% of non-hazardous construction waste.
- ❖ Recycling 99% of non-hazardous waste from thermal processes.
- ❖ Achieve a 70% recycling rate of municipal waste.
- ❖ Reducing the consumption of non-metallic mineral raw materials by 20% (3.4 million tonnes).
- ❖ Improvement of 10% of the land area.
- ❖ 15% increase in green jobs.

Green Deal, circular economy in the construction sector/buildings



Green deal on circular construction (Source: vlaanderen-circular.be, 2024)



(Source: Norouz, 2021)



Best practice: Central Europe...

ReBuilt

Central European construction is one of the largest economic sectors:

- creating turnover of 1,229 billion EUR with average 6.3% of GDP
- employing over 10 million people
- consumes more than:
 - ❖ 50% of all extracted raw materials,
 - ❖ 50% of water,
 - ❖ 30% of energy and produces
 - ❖ 30% of waste
 - ❖ 35% of Green House Gas (GHG) emissions

Best practice: ReBuilt



ReBuilt

Circular and digital renewal of Central Europe construction and building sector (2023- 2026)

Consortium: 14 partners

Coordinator: ZAG

The construction industry heavily contributes to resource consumption, waste generation, and greenhouse gas emissions. Adopting circular and digital practices can help reduce the sector's environmental impact.

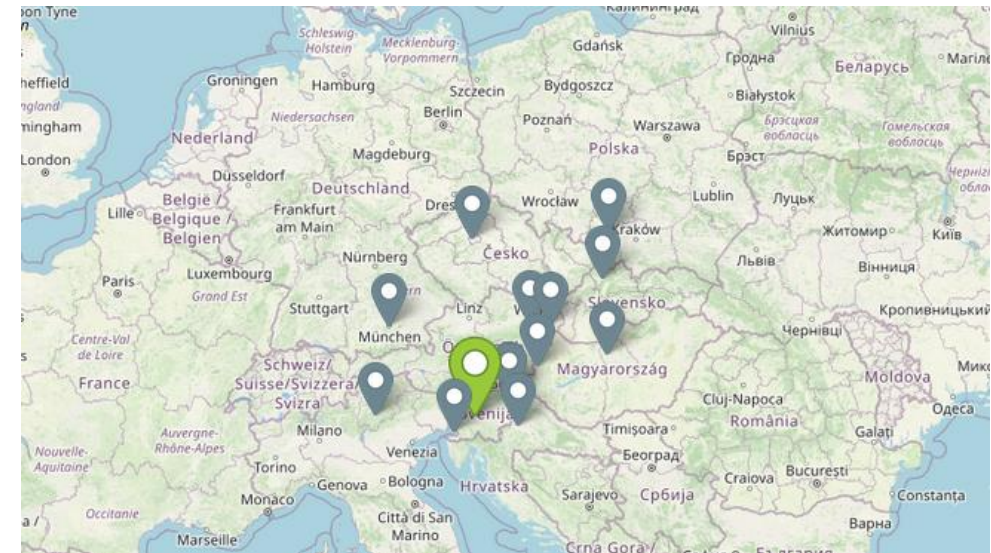
The ReBuilt project, a significant initiative, leads these approaches in an education programme and deploys new solutions. The partners also design a transnational circular and digital construction strategy based on green labelling, end-of-waste criteria, and green public procurement.

Best practice: ReBuilt

Objectives

Central Europe: To boost the deployment of the circular construction (recycling and upper R-hierarchies)

Central Europe: to boost digital construction



Best practice: ReBuilt

ReBuilt

Activities

- Preparing a joined Central Europe Circular and Digital Construction Strategy
- ReBuilt Fit for Circular and Digital Construction training programme
- Development and testing circular and digital solutions

Best practice: ReBuilt

5 solutions

2 circular material innovations – bio concrete + green concrete

1 Circular and Digital Construction Demo center (Maribor, Dogoše, Nigrad d.o.o.)

2 digital solutions (digital material passport - circular construction models)

The material innovations based on previous cooperation of partners:

- 100% recycled aggregate,
- bio-concrete



piloted to show new types of sustainable materials which significantly decrease CO2 emission in Central Europe and create new cross-circular value chains.

Conclusion

In Slovenia, the construction sector is interested in increasing the use of waste and secondary raw materials to promote sustainability and reduce environmental impact.

The construction sector's interest in waste and secondary raw materials is not just a trend but a testament to its alignment with the European Union's circular economy principles and Slovenia's unwavering commitment to sustainable development.

We need appropriate legislation, research, development, and cooperation with the economy and decision-makers; waste is not waste but the value of a sustainable future.



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