

Circular Solution: Flanders Region, Belgium

Making Circular Buildings A Reality - The Zoersel Library Pilot

Plan for the Zoersel Library renovation
Source: Pilot's own image



Size:

6.9 million

Zoersel municipality 22,500 inhabitants



GDP:

Flanders: per capita Euro 47 300



Geographical information:

Northern Europe



Urban-rural predominance:

Flanders has both urban and rural municipalities; the focus of this pilot was on small to medium-sized municipalities (up to 50,000)



Innovation ranking:

Leader



Sectors:

Construction and buildings



Time frame:

September 2022 – October 2025



Circular strategies:

reduce

reuse

recycle

rethink

regenerate

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[Flanders | Circular Cities and Regions Initiative](#)





Solution overview

Circular Flanders is a leader in circular economy action, initially aiming to embed circular principles into the Flemish Local Energy and Climate Pact, a climate framework adopted by most municipalities. When policy updates stalled, Flanders shifted focus to collaboration with the Association of Flemish Cities and Municipalities, creating and sharing circular construction guidelines and tools, and testing them through a demonstration project in Zoersel. Under a Horizon Europe project, a public library in Zoersel is being renovated, transforming the building into a circular, energy-efficient, and socially engaging space. Acting as a learning laboratory, the project demonstrates how circular design, procurement, and material reuse can be applied in practice, offering a replicable model for other municipalities across the region.

Interreg
Europe



Co-funded by
the European Union

KARMA

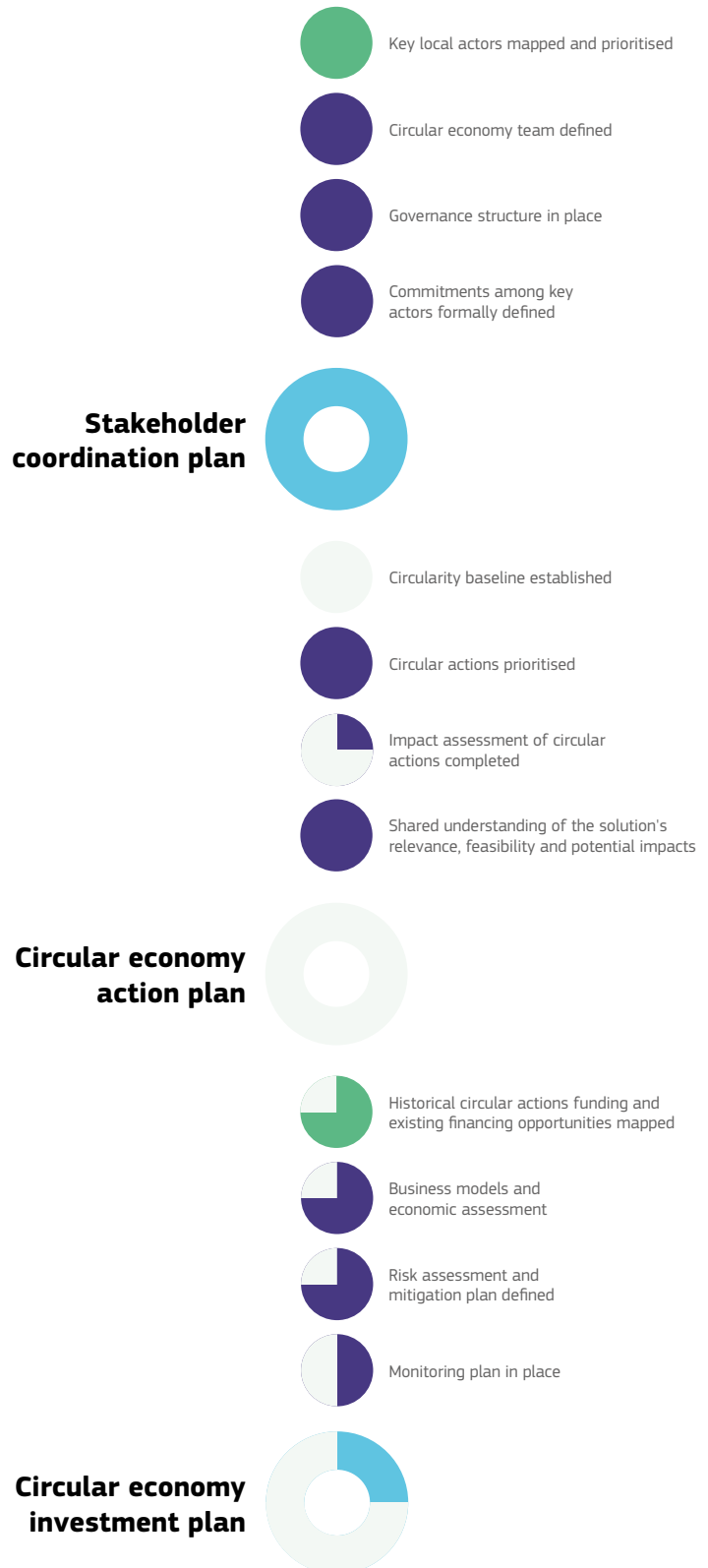
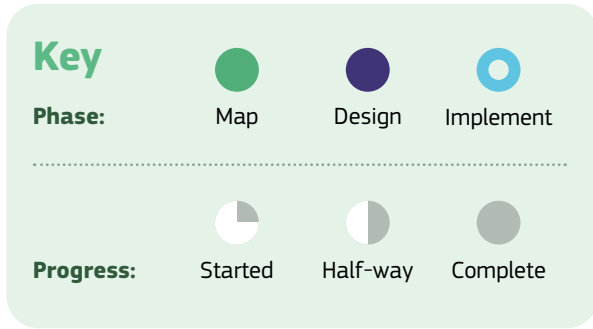


CIRCULAR
FLANDERS



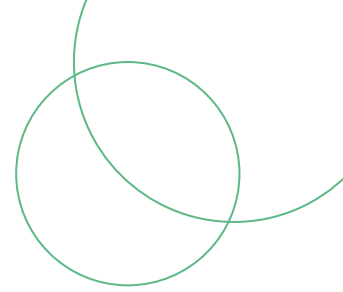
✓ CCRI Methodology Step Completion Status:

The [CCRI Methodology](#) is a guidance tool for policy and decision-makers in local and regional government. It describes key activities and milestones in the successful development of a Circular Solution, divided into three phases – Map, Design, and Implement. The visual checklist provides an at-a-glance view of how the Zoersel Library demonstration project is progressing towards these outputs.





Background and objectives



i Policy context:

Flanders is a leader in climate and circular economy policies. The platform [Circular Flanders](#), hosted by the Public Flemish Waste Agency, embodies the joint ambitions and actions of a broad range of stakeholders. One key policy instrument in Flanders is the [Flemish Local Energy and Climate Pact](#) (LECP), which brings together nearly 300 municipalities in local but regionally coordinated action.

Throughout the duration of the CCRI support, the Flemish policy context evolved. The initial focus on the contribution of circular economy (applied to building and construction) to the LECP looked very promising, with strong political support, financial schemes and additional priorities for the need to be prudent with the use of critical raw materials and the importance of the role of social economy enterprises (see e.g. [social-circular hubs](#)). The support period also coincided with the Belgian Presidency of the EU, providing Flanders even more visibility in demonstrating its leadership role.

After the 2024 elections, regional priorities shifted. Albeit circular economy remains high on the agenda and local authorities continue to play a pivotal role, the LECP as the guiding supportive framework deemed less relevant and budget constraints led to both less investments in CE and in less climate mitigation and adaptation support schemes.

× Problem:

Circular building and renovation still tends to be more expensive in terms of upfront investment costs ([typically 10-15% - but sometimes up to 70%](#)). Even though such costs can be partially recouped in the maintenance and running phase, this is difficult to justify for municipalities operating with annual budget cycles. Circular building and renovation are also still quite uncommon in smaller municipalities, which do not necessarily have the capacity, technical experience and/or funds to do so. At the same time, the smaller communities constitute the majority of the Flemish population (up to three quarters) and receive 60% of the regionally distributed allowances and subsidies by the Flemish government. For the implementation of circular and climate action we thus need to consider the daily experiences and structures of smaller-sized cities.

🎯 Objectives:

- Maintain political momentum for circular economy in Flanders (framing circularity, climate action and circular-social economy as enablers for a thriving and resilient region), despite the change in political priorities.
- Apply these principles through a demonstration project, with an aim to create conditions and insights that make circular buildings (e.g. a library and the wider municipal building stock) feasible and more concrete.





Stakeholders

Solution Leader(s):



Public Authorities

Different stakeholders were involved in the implementation of this solution. [Circular Flanders \(CCRI Pilot\)](#) is a part of the Public Flemish Waste Agency, a regional governmental body who formally applied to the CCRI, providing an interface between policy and practice, fostering action agenda's, finance, communication and research and more. The Association of Flemish Cities and Municipalities acted as a multiplier and knowledge broker, instrumental to the preparation and dissemination of the publication and follow-up workshops.

Supported by:



Public Authorities



Funding & Advisory Bodies



Private Sector



Research & Academia

They helped in the identification and onboarding of the Municipality of Zoersel ("Gemeente Zoersel") as a key beneficiary of the CCRI Technical Assistance (provided by [VITO](#), the Flemish Institute for Technological Research).

Before collaborating with the CCRI, Zoersel was collaborating with [Kamp.C](#) who provided advice on the circular public procurement of a library, which was being contracted by [Cuypers & Q](#) (Architects) and [Beneens](#) (Building company).

Additional stakeholders have been involved in the debate on the merits and potential of combining circular building principles and climate policies during the CCRI Pilot years. Most importantly, the Flemish Agency on Energy and Climate, the Department of Home Affairs, the department of Environment and the Agency for Entrepreneurship and Innovation.



Results and Impact

Results

WHAT

Flanders and the Association of Flemish Cities and Municipalities have successfully built a lasting framework to promote circularity in the built environment across municipalities. Their joint efforts have increased awareness, provided practical guidance for local governments, and supported a concrete demonstration project showcasing how circular principles (depicted in Figure 2 below) can be applied in public construction.

Figure 2: Five principles for circular construction



Source: Based on the [Brochure](#) 'Local circular construction: starting with circularity in your municipal construction and renovation projects' developed by Flanders, Association of Flemish Cities and Municipalities and CCRI.

WHY

Demonstrating that a small municipality such as Zoersel can successfully implement circular principles sends a powerful message: if they can do it, so can we. Renovating a public building like a library to showcase circular principles not only creates visibility and social value but also inspires younger generations who frequent these spaces. Libraries themselves embody circularity through the sharing economy, reinforcing the concept. Overall, these efforts strengthen regional capacity for circular construction and provide a replicable model for other municipalities.

HOW

The joint efforts of Flanders, the Association of Flemish Cities and Municipalities, and Zoersel have strengthened regional capacity for circular construction, produced practical guidance, and generated replicable lessons for cost-efficient circular public buildings.

- **Translate circularity for local realities: Circular Construction Guidance.** A key output was the '[Local circular construction](#)' brochure developed by Flanders, the Association of Flemish Cities and Municipalities and the CCRI. It provided accessible and practical guidance on circular buildings, bringing the circular economy dimension into the mainstream of local climate policies. Its publication and dissemination in both Dutch and English have extended its reach across the region to cities such as Kortrijk, Diest and Mechelen.
- **Demonstrate circular principles: Public procurement of library renovation in Zoersel.** The demonstration project turned the brochure's principles into practice, generating key insights (detailed in Section 1.5). A public procurement tender was launched, with the winning and retained bid was awarded due to its strong technical scores on circular economy and energy efficiency, however the upfront investment costs were substantially above those budgeted by the municipality. The project provided valuable insights on balancing circular design quality with cost constraints and the process helped identify cost optimisation strategies and circular procurement solutions applicable to future projects.
- **Replicate and upscale: design a Digital Building Logbook.** To manage future circular buildings, Zoersel explored the use of a Digital Building Logbook (DBL). The approach demonstrates how digital tools can support data-driven decisions on maintenance, renovation, and material reuse. A tailored report was prepared, providing a framework that Zoersel and other municipalities can adapt to integrate circular principles into asset management systems. A simplified format and set of parameters and integration steps was proposed for testing by a regional group of property managers.

Impact:

Sustaining circular progress in Flanders

- Flanders and the Association of Flemish Cities and Municipalities have continued to champion circular economy practices among local authorities. Through dedicated sessions and national events, over **10 Flemish municipalities and 60 local community representatives** engaged directly with CCRI principles, reinforcing regional commitment to circularity.
- Flemish partners also shared their experiences in key European and international events — including the ['Translating the European Green Deal into Local Action'](#) Conference (March 2024) and the [World Circular Economy Forum](#) (April 2024) — showcasing how regional coordination can accelerate local action.

Engagement at a glance:

10

**Flemish municipalities
actively engaged**

1

**demonstration
project implemented**

60+

**participants reached via events of
Flanders and the Association of
Flemish Cities and Municipalities**

2

**published resources
(ambitions map and brochure)**

Demonstrating Circularity in Practice: The Zoersel Library

- Demonstration of how circular principles can deliver tangible environmental and social value, even within tight municipal budgets. The project improved functional space, reduced energy use, and preserved the building's long-term asset value.
- A Digital Building Logbook was also developed to professionalise building management and enable data-driven decisions on maintenance, reuse, and investment planning.

Circular renovation of the public library in numbers:

Improved functional
space:

500 m²

(expanded library, toy library,
workspaces, winter garden)

Estimated reduction
in GHG emissions:

~250 tons

CO₂/year avoided in total

Annual energy savings:

**~200,000
kWh/year**

saved through (roof/floor)
insulation & relighting

Reduced

**construction and
demolition waste**

and enabled reuse of
building materials

(incl. furniture, wooden flooring,
panelling, and staircase elements).

Long-term benefit:

maintained asset value of the
public library, improved user
experience and renewed appeal
of Zoersel's town centre.

Together, these results confirm that circular construction can be both practical and scalable. Flanders' experience shows how coordinated regional action, accessible guidance, and hands-on demonstration can accelerate the circular transition across Europe's municipalities.



Challenges and Lessons Learnt

Enablers to implementation

- **Local political ambition as a foundation:** Broad and cross-party political buy-in is essential for initiating and realising circular building projects.
- **Social momentum:** The visibility and central location of the demonstration building/site made it a social project. Citizen and stakeholder preferences were actively integrated throughout the process.
- **European initiatives as catalysts:** Connection to EU-wide initiatives/networks/projects (e.g. [EHHUR](#) project) helped to break silos and gain visibility, which can lead to snowballing support.

Barriers to implementation

- **Immature circular market:** The market for circular products and materials remains underdeveloped, leading to quality, supply, and pricing challenges. Funding gaps are often bridged through ad-hoc grants or subsidies.
- **Time-related cost increases:** Complex circular projects are prone to delays, which can account for up to 50% of cost increases, often more than the added cost of circular specifications themselves.
- **Limited local capacity:** Availability of knowledgeable staff at municipal level is key – but not evident for smaller and medium-sized municipalities.
- **Rising construction costs:** Stricter standards and market conditions have increased building costs (estimated at ~20% more expensive over 5 years). Municipalities need to plan financing mechanisms accordingly.



Lessons learnt

- **Capacity can be built through partnerships:** The Zoersel experience shows that even smaller municipalities with little capacity/experience can implement circular projects by temporarily engaging external expertise. Hiring a knowledge broker (Kamp C) proved effective in guiding procurement and connecting with suppliers.
- **Start with existing public buildings:** Renovating existing buildings is an effective entry point for circular practice because it:
 - Builds on sites with local heritage and emotional values.
 - Enables public authorities to set an example, to 'lead-by-doing'
 - Offers opportunities for community participation and education (e.g. site visits).
- **Timing matters for political commitment:** Two years of preparation were needed to approve renovation specifications – early alignment with decision-makers is critical.
- **Frame circularity as an enabler of decarbonisation and of social wellbeing:** Circular projects – such as the one of Zoersel – should be presented as projects with multi-benefits (environmental, social and economic), and drivers of decarbonisation, social wellbeing, and economic resilience.
- **Adopt a whole-life perspective:** Circular building/renovation of public buildings is much more than just focusing on reduction of construction and demolition waste; it addresses multi-functionality, lifespan and flexibility. The costs are more than the initial investment cost, it is important to consider management and maintenance to demonstrate the benefits of circular building. Including specific reference to Life Cycle Costs (LCC) in tender dossiers and as part of award criteria helps capture the full value of circular design.
- **Integrate cost control early:** Cost optimisation is most effective in the *pre-award* stage of procurement; once a tender is awarded, major cost reductions are difficult to achieve.
- **Ensure long-term financial viability:** Circular building renovation remains relatively costly due to its 'pilot' nature; these additional costs are difficult to be borne for smaller and medium-sized municipalities which face challenges in funding; a need to look for structural funding, e.g. through dedicated support programmes and/or earmarking of European funds (e.g. ERDF).
- **Use digital tools to manage performance:** Digital Building Logbooks (DBL) help track maintenance, energy use, and renovation history, enabling benchmarking and cost control. This shifts the focus from one-off investments to lifecycle-based management, supporting more efficient, data-driven decision-making.

The project offers a replicable model for small and medium-sized municipalities aiming to make circular renovation both affordable and measurable.



Tips for replication

What to replicate?

- Develop circular principles into tendering for public buildings:
 - Striking a balance between circular/sustainability considerations and affordability in award criteria.
 - Including flexibility in tender specifications (e.g. work with a broker, with certain tools as well as with risk mitigation).
- Secure strong social buy-in for the project:
 - Encouraging participation of local communities through surveys, advisory municipal service consultations, and participatory sessions with professional stakeholders, residents, schools, and social organisations:
 - Developing a Working Group with representatives of key stakeholders meets monthly to discuss the project
 - Use of digital tools (e.g. [GRO](#)) to compare the buildings teams' proposals, and visualise options for discussion within the Working Group.



Who can replicate this?

- Municipalities seeking to implement circular principles into construction works, while balancing environmental, economic and social priorities.
- Dedicated regional multipliers and knowledge brokers specifically active in their location (e.g. intermediary organisations, innovation hubs) that can guide municipalities and connect them to relevant expertise.



How to replicate it?



- Plan ambitiously but stay flexible: The end goal is clear, adapt again and again when setbacks occur.
- Build cross-party political support: Link circularity to broader policy priorities such as decarbonisation, well-being and social inclusion.
- Start with visible public buildings (low hanging fruit): focus on public buildings which gives places an identity and can act as demonstrators of circular renovation.
- Use existing guidance: Leverage the [Brochure](#) and [Ambitions map](#) to develop a common understanding of circular principles across the value chain.
- Collaborate with experienced partners: Work with contractors and architects who already have cutting-edge circularity knowledge and expertise.
- Address capacity gaps: Smaller municipalities can look to outsource capacity. For example, consider temporary involvement of a knowledge broker who specialises in circular public procurement.
- Map and manage materials: Identify existing material flows and potential for reuse. In the medium term, develop a Digital Building Logbook (DBL) to enable efficient and effective building management.
- Ensure regulatory clarity: Align with safety standards and building codes to facilitate the reuse of materials.
- Verify quality early: Establish third-party verification of secondary material early, avoiding a lack of trust in quality.
- Analyse costs proactively: Conduct a hotspot analysis after the contract award (and pre-empt this in the tender documents) in order to identify additional cost-saving opportunities.

Resources and contacts

- [Brochure](#) **'Local circular construction: starting with circularity in your municipal construction and renovation projects'**
- [Ambition map for local authorities](#): Framework to determine your priorities and circular strategies for design and construction and to choose the matching actions that local governments can implement accordingly.
- **Additional tools** available on the [Circular Flanders](#) website.