



European Construction Sector Observatory

Policy fact sheet

Belgium

Green Deal Circular Construction

Thematic objectives 1, 3 & 4

November 2020



In a nutshell

Implementing body	Circular Flanders, OVAM (Public Waste Agency of Flanders) and VCB (Flemish Construction Confederation).
Key features & objectives	The Green Deal Circular Construction (GDCC) aims to accelerate the transition to a circular construction sector. The focus is on resource efficiency, extended use and reuse, recycling and recovery.
Implementation date	February 2019 - ongoing
Targeted beneficiaries	Construction sector companies and stakeholders
Targeted sub-sectors	All sub-sectors
Budget (EUR)	100,000 per year (GDCC coordination) 150,000 per year (Circular Lab coordination) ¹ 2.2 million (2020 GDCC call) ² .
Good practice	★★★★☆
Transferability	★★★★☆

More than 60% of global CO₂ emissions are related to the materials we use³ and about 30-40% of all waste produced derives from the construction industry⁴. How we build and live therefore has a major impact on our carbon footprint.

The circular economy offers solutions to reduce our carbon footprint. For the construction sector, this means reusing and recycling construction materials to prevent waste.

The circular economy is one of the seven transition priorities established by the Government of Flanders. These priorities are a response to the objectives established by the European Circular Economy Action Plan and the Flemish National

Waste Plan. They are also a continuation of policy evolution in Flanders. Over the past 25 years, Flanders has moved away from a traditional waste policy towards a sustainable materials policy that prioritises re-use, waste prevention and recycling.

The move from waste management to the use and reuse of sustainable materials in construction is an opportunity to transform environmental objectives into economic and social opportunities that will optimise the use of resources, create new jobs and offer new added value.

As the hub of the Flemish circular economy, Circular Flanders is working to implement the Government’s circular economy transition priorities. Circular Flanders is a partnership of governments, companies, civil society and the knowledge community. As part of its activities, Circular Flanders has launched a number of “Green Deal” initiatives to build partnerships and promote more sustainable and circular alternatives to existing practices.

The Green Deal Circular Construction (GDCC) initiative⁵ was launched in February 2019 by Circular Flanders, in collaboration with OVAM (the Flemish Public Waste Agency) and VCB (Flemish Construction Confederation). It is expected to run until 2023. The GDCC is fully aligned with the Flemish circular economy strategy – “Vision 2050, a long-term strategy for Flanders”⁶ – which was adopted in 2016.

The GDCC is a relatively new initiative that has the potential to be very successful. In less than two years, 320 participating organisations have joined the initiative and more than 134 experimental projects have been registered and are ongoing.

A Circular Construction Living Lab has been set up to translate project results into policy recommendations. The GDCC has also run a number of Inspiration and Action Days to connect and inspire knowledge sharing and collaboration.

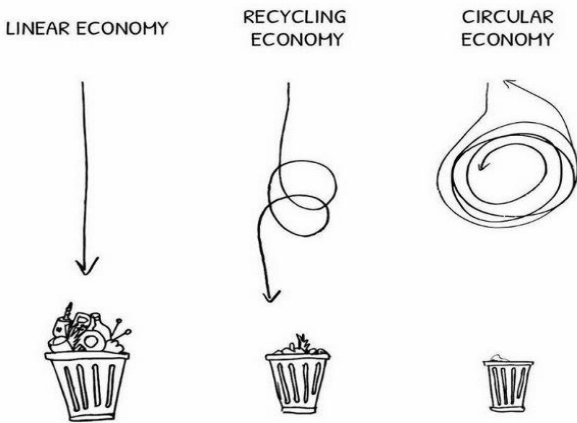
1.

General description

A circular economy is an economic system driven by business models that replace the “end-of-life” concept with a sustainable development concept based on reducing, reusing, recycling and recovering materials and components⁷.

Industrial, political and academic interest in the transition from a linear to a circular economy, as shown in Figure 1, continues to grow. From an individual company perspective however, completely closing the loop is not an easy approach to implement. A circular economy typically requires a new partnership between value chain partners. Rethinking business models and creating new, added value are at the core of any transition to a circular economy.

Figure 1: Transition to a circular economy



Source: Towards a circular economy monitor for Flanders: an initial interpretation by OVAM⁸

Transitioning to a circular construction economy is a major priority for the Region of Flanders, and is one of the principal reasons why Circular Flanders opted to implement the GDCC Initiative.

The ultimate aim of the GDCC is to accelerate the application of circular economy principles in the construction sector. As part of the GDCC framework, Circular Flanders develops and shares experiences and knowledge. The intention is to

provide a self-sustaining system that definitively embeds circular construction as a good practice⁹.

The specific objectives of the GDCC initiative are to:

- Stimulate cooperation and transparency in construction sector value chains;
- Better understand the economic and environmental value of circular construction;
- Reinvent the construction process and product lifecycle by implementing systemic change in design, construction and dismantling practices;
- Adapt construction business models to create social and economic value;
- Create and sustain a learning network to develop, share and apply knowledge, data and practical experiences through partnerships.

The GDCC is the result of an intensive consultation process with construction sector stakeholders. It determines objectives, actions and a shared responsibility to further develop sustainable resource management in construction practices¹⁰. A combination of practice and learning is at the core of the initiative. Participants run experiments and use their accumulated knowledge and experience to create a learning network. They test tools, methodologies and new forms of value chain cooperation.

Participants can apply to Circular Flanders for grant funding for their project experiment. Calls for proposals are run each year by Circular Flanders and OVAM (lead partner in Circular Flanders) and are financed by the Flemish Government. The maximum grant available is EUR 100,000 to cover up to 80% of project costs¹¹.

In addition, a research group is tasked with identifying the preconditions for a circular

economy, i.e. the legal, economic and other barriers that need to be addressed. Data and experiences from experiments feed into this research and the participants work together to formulate solutions.

The GDCC initiative also hold about four events per year to enable participants to meet, present Flemish and foreign use cases and inspire each other. The GDCC initiative encourages participants to work as a team to identify what the transition to a circular economy implies for the Flemish construction sector, and how best to get there.

To participate in the Green Deal Circular Construction, participants must:

- Conduct at least one pilot project during the term of the GDCC (e.g. implementation of a

construction project, provision of a site, performing research, development/supply of circular products or services, development of circular materials, facilitating circular construction projects);

- Take an active part in the learning network, where participants exchange knowledge and experiences;
- Agree that the researchers of the Circular Construction living lab may have access to all the relevant data, results and lessons learned from the pilot projects;
- Take the necessary steps to ensure that the principles of circular construction can be embedded structurally in their own organisation.

2.

Achieved or expected results

The Green Deal Circular Construction (GDCC) provides a unique knowledge and experience sharing platform and network for construction sector stakeholders. It is a learning community to test tools, methods and new forms of cooperation across the value chain. It is supported by a research group looking into framework conditions of a legal or economic nature to counter barriers to the transition to a circular economy.

The GDCC relies on the clear engagement of all participants to put the lessons learned into practice in their daily business. All participants are engaged in conducting an experiment on circular construction, this from a broad viewpoint, to:

- Test new techniques;
- Develop a new product,
- Research, develop and test circular business models;
- Explore and test new forms of cooperation;
- Implement and test circular procurement and reverse logistics processes¹².

The GDCC has been in operation since 2019. It is therefore a relatively new initiative with fairly limited results to report to date. Results on the experiments being implemented by participants are not yet available, but are expected to be reported in due course.

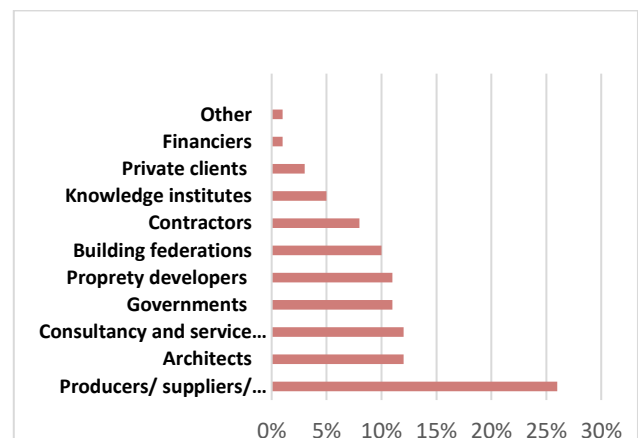
Key results of the GDCC to date include:

- 320 participating organisations;
- 200 organisations attended the GDCC kick-off held on 22 February 2019;
- 270 participants took part in the GDCC launch event;
- 4 Inspiration Days were organised in 2019;
- 4 Action Days were organised in 2020;
- More than 134 project experiments have been registered by participants.

As shown in Figure 2, the GDCC has succeeded in bringing onboard 320 participating organisations from across the construction sector value chain:

- The largest group (26%) is made up of producers, suppliers and installers of specific building systems, such as exterior/interior walls, windows and doors, roofing and air conditioning;
- Architects (12%) and consultancy and service providers (11%) are well represented. The latter group includes engineers, energy consultants, and construction project managers;
- Regional government departments, bodies and agencies are also well represented at 11%, especially in their capacity as principals;
- Property developers (11%) and building federations (10%) are also on board;
- Contractors (8%), knowledge institutes (5%), private clients (3%) and financiers (1%) are underrepresented.

Figure 2: GDCC participants by type of organisation



Source: Circular Flanders, retrospective report 2017-2019¹³

Inspiration Days are held to inspire the design and implementation of ambitious circular construction experiments. They are part of the GDCC learning network development work to enable participants to exchange knowledge and experiences and assist each other in their experimentation activities.

The first round of Inspiration Days (2019) focused on the demolition phase – a key component of the future circular construction economy¹⁴.

GDCC Inspiration and Action Days encompass a range of activities that include plenary sessions with keynotes, practical use cases presentations, workshops, expert advice, demonstrations and site visits. Digital tools, such as a live voting and networking applications, support participant interaction and ensure that their ideas and interests are captured and shared¹⁵.

GDCC events are organised by the initiative's core team members – the Circular Flanders operational team at OVAM and the Flemish Construction Federation (VCB)¹⁶.

Project developments

When joining the GDCC initiative, participants commit to test a circular concept in practice through a pilot project. As part of their learning trajectory, the GDCC's core team guide and assist participants through the process, enabling them to exchange experiences, overcome barriers and enter into partnerships¹⁷.

To date, **more than 134 project experiments** have been registered with the GDCC by its participants and are ongoing¹⁸. These experiments have been submitted by individual participating organisations, but also include collaborative experiments involving various participants. These projects are funded by the Flemish Government through competitive calls (not by the GDCC) and are put forward as experimental use cases for GDCC testing.

Details on the nature and expected results of those experiments is currently rather limited, as the initiative is still at an early stage. It is expected, however, that the results of these experiments will be reported in due course. The principal objective of each experimental project is to translate circular concepts into practice and accelerate their application in the construction sector.

A few **examples of GDCC projects**¹⁹ include:

- A municipal council project to construct a new multifunctional and circular building in Tervuren using high quality materials that can later be reused or recycled. After use (within a few

decades), the building must be capable of being dismantled;

- The province of Limburg is building a new multifunctional training hall based on a design to ensure that the building materials can be brought back into the chain during demolition and without loss of quality;
- The “Grondstof” project is transforming excavated building soil into circular building materials, such as clay bricks, rammed earth and clay plasters. After use, they can be reused as land or given a new lease of life as building materials in an infinitely circular process.

To support the participants' project experiments and maximise the value of their results, the GDCC implementation team is working closely with OVAM on circular construction policies and regulations to support the sector's transition to a circular economy.

The Circular Construction Living Lab is the research wing of the GDCC. Based on the practical experiences and findings of the GDCC participants' experiments, researchers define practical and policy recommendations to accelerate the transition to a circular construction economy.

The Circular Construction Living Lab operates three activity lines:

- Compass group (defining research questions);
- Sites and projects (field experiments);
- Research (analysis of findings)²⁰.

A Circular Construction Work Agenda is also being prepared in collaboration with relevant stakeholders²¹.

The agenda will draw on the lessons learnt and the bottlenecks identified by all ongoing activities operated by Circular Flanders, including previous Circular Flanders Open Call projects, GDCC activities and experiments, and the current but expiring “Material-Conscious Construction in Cycles”²² Policy Programme.

Monitoring and evaluation

A mid-term review is scheduled to take place in early 2021 to evaluate the progress made by the GDCC initiative and the extent to which it is meeting the expectations of the participants, and to identify any modifications or improvements required²³.

3.

Perspectives and lessons learned

The transition to a circular economy demands many adaptations in the value chain.

Value chain adaptations range from product developments, for example, to extend the lifetime of materials or to recover materials, to new business and market models, to new ways of transforming waste into resources, to new consumer behaviour.

The GDCC initiative has already identified a number of implementation bottlenecks to circularity in construction.

The key bottlenecks identified to date include:

- Decisions, and specifically investments, are often made based on short-term perspectives and driven by purely financial considerations;
- Circular innovation is difficult to implement in the construction sector. Contractors and investors often prefer to avoid risks associated with new building techniques and often fall back on traditional building solutions;
- Trust between construction stakeholders in a (re)construction project. The individual interests of construction sector stakeholders, professions and disciplines are not always aligned right from the start of the project;
- The selective application of circular business models, such as “product-as-a-service”, “take-back formulas” and the leasing of standardised construction components, in niche sectors (e.g. in retail, industry or care), are difficult to replicate for the entire construction and real estate market. Scale appears to be crucial for the profitability of circular business;
- The economic and social opportunities that circular construction has to offer are not always clear to construction companies, tradespeople and clients/customers²⁴.

Solutions to circular economy challenges in construction require a broad coalition of partners.

The implementation bottlenecks / challenges are sector-wide, systemic, complex, economic and cultural. Solving them requires a collective will and a broad partnership involving all relevant stakeholders from across the construction sector value chain. That includes the public and private sector and associated sectors (industry, ICT, financial, legal, social), as well as all decision-making levels within value chains and organisations²⁵.

The transition to a circular economy demands fundamental and systemic change. The transition implies radical changes at different levels and scales, from organisational changes to new building design methods.

Due to the numerous challenges and the complex landscape of the circular economy, and even though there is a demand from Belgian construction stakeholders to implement circular building concepts, the construction sector still struggles to effectively put circularity into practice. For example, building designers find it difficult to design circular construction products or buildings, when there is a lack of interest, knowledge, skills or incentives.

Circular solutions are gaining traction in the market.

Larger manufacturers are increasingly emphasising the circular nature of their recycled products and a growing number of contractors are entering into long-term maintenance and management agreements. They do so in demonstration projects and in collaboration with their most ambitious clients. They are not the only ones however; smaller businesses are also beginning to align their activities and products with the transition to circular.

4.

Conclusion and recommendations

Construction and demolition waste and earthworks make up a large share of total waste generated. In Flanders, the sector reuses 90%²⁶ of construction and demolition waste. Excavated soil is also meticulously traced and reused (95%)²⁷. Circular construction is gradually becoming the benchmark.

The Flemish GDCC is proving to be a successful collaboration and experimentation initiative. As a four-year initiative (2019-2023), it is still at an early stage of its development, but it is growing quickly. A total of 320 organisations have joined the GDCC thus far and they are contributing their knowledge and experiences to the learning network through engagement activities (meetings, events, webinars and the online networking platform). More than 134 individual and collaborative project experiments have also been registered with the GDCC, in which circular construction concepts are being tested.

GDCC stakeholder feedback is positive and the initiative is broadly welcomed. The involvement of 320 participating organisations is evidence of the value they ascribe to circular economy principles, to reducing material waste, and the opportunities that can be achieved through the GDCC initiative.

Participating organisations are sharing and acquiring valuable knowledge, for example, on how to reinvent construction processes, how to enhance value chain cooperation and transparency, and how to generate economic and environmental value through circular construction. This is done by sharing experiences and by piloting new projects²⁸.

Looking forward, two recommendations are suggested to help improve the impact of the GDCC:

- More project experiments should be implemented by GDCC participants. Thus far, there are 320 participants and approximately

134 projects being implemented. That implies that roughly 42% of participants are engaged in project experiments. The GDCC requires all participants to apply circular concepts in at least one project to help participants to experiment and learn. More projects will provide more input into the work being done by the Circular Construction Living Lab and the Circular Construction Work Agenda. It will also help to accelerate the sector's transition;

- Consideration should be given to expanding the GDCC at national level and/or replicating it in other regions and/or linking it with other circular initiatives across Belgium and beyond.

Overall, the Green Deal Circular Construction is rated a “4-star good practice measure” on a scale of 1 (low) to 5 (high).

This score is based on the rapid growth of the initiative in its first year of implementation. It has attracted a high level of interest and commitment in the Flemish construction sector and demonstrates strong potential for success. However, as a relatively new initiative, it has yet to be formally evaluated. It will have the potential to achieve a higher “good practice” score once more results emerge.

The Green Deal Circular Construction is rated a “4-star transferable measure” on a scale of 1 (low) to 5 (high).

The reasoning for this score is similar to that given in relation to “good practice”. A high level of participation since 2019 indicates its potential value as an enabling initiative. Circular economy concepts and opportunities are attracting growing interest from consumers and businesses across multiple sectors. The GDCC has the potential to be highly transferable and/or to provide a learning experience. More data on actual results will help to confirm how transferable it is (e.g. after the mid-term review).

Endnotes

- 1 Interview with Roos Servaes, Circular Economy Facilitator, 10 November 2020.
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- 13 Ibid
- 14 Circular Flanders Retrospective Report 2017-2019:
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- 15 The Green Deal as an accelerator to a circular construction sector:
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