

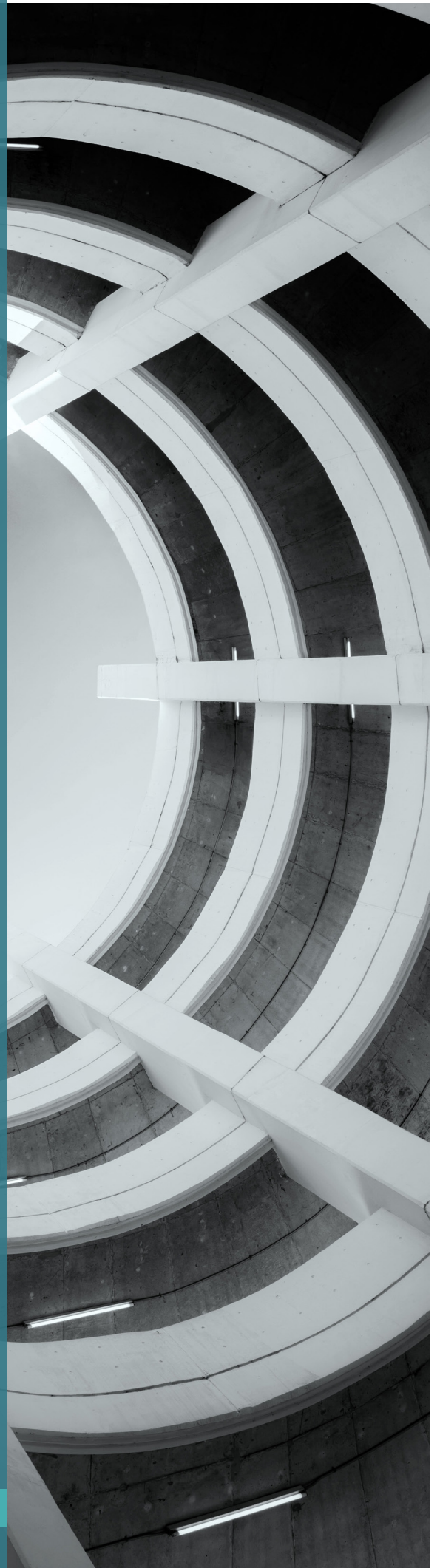
THE ADOPTION OF THE CIRCULAR ECONOMY BY LOCAL GOVERNMENTS

A SURVEY AMONG
BELGIAN MUNICIPALITIES

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EXECUTIVE SUMMARY

Although many local governments are trying to reduce their local greenhouse gas emissions, consumption-related emissions are largely ignored. The circular economy provides a means to address this issue by changing consumption and production patterns profoundly. Not only supra-national, national, and regional governments are adopting policies for the circular economy, we find that local governments are also starting to adopt it with the aim of addressing environmental and social challenges on their territories. In this report, we provide insights into the level of adoption of the circular economy by Belgian local governments, their priorities, their approach, and the main barriers they encounter. Although the transition has started, still more work is required from all stakeholders to accelerate the circular transition towards sustainability.

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01

INTRODUCTION



Since 2008, the Covenant of Mayors has been a successful initiative to get local governments committed to the ambition of the Paris Agreement to keep global temperature rise below 1.5°C. In Belgium, many local governments have signed the covenant and developed a Sustainable Energy and Climate Action Plan. However, in the calculations for 2021, Belgium is on the 8th place of countries with the highest per capita consumption-based CO₂ emissions globally¹. This shows that only focusing on local territorial emissions is not enough, given the responsibility for much more emissions related to the consumption of products that are produced elsewhere in the world. The circular economy provides an alternative to our linear economy where the 'end-of-life' concept is replaced "with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes"². The circular economy can not only help to tackle climate change but also reduce the need for mining of virgin materials which leads to the destruction of habitats. It makes industries and countries less dependent on the market for primary resources. The circular economy also has the potential to address social problems, create more meaningful jobs, and reduce inequality by shifting from ownership to sharing.

For the European Union, the circular economy is a priority in the European Green Deal³ to become the first climate-neutral continent and has adopted legislation to, for example, avoid single-use plastics⁴ and promote the reparability of products⁵. Local governments are assigned a key role in the circular transition, as can be seen in the Circular Cities and Regions Initiative (CCRI)⁶. This initiative is part of the Circular Economy Action Plan⁷ and aims to implement the circular economy across European cities. As being closest to citizens, local governments can start the transition at the local level in collaboration with local stakeholders.

This study aimed to examine the adoption of the circular economy by Belgian local governments and to understand how they are adopting it into their policy agenda. We surveyed all 581 Belgian local governments in November 2022. This report gathers the main findings of this survey and aims to inspire all kinds of local stakeholders to support the further integration of the circular economy at the local level.

In the next section, we start by explaining the methodology before discussing the results in three main sections. We first show *why* local governments adopt the circular economy. Next, we discuss *what* aspects of the circular economy are most important. The third section shows *how* local governments can implement the circular economy.

02

METHODOLOGY


For this study, a survey was performed among all 581 Belgian local governments. The survey was conducted from November to December 2022. This online survey was sent to the mayor, general director, and sustainability alderperson of every municipality and asked to have the survey completed by the person best aware of the local government's circular or sustainability policy.

In total **309 (54%)** local governments responded, providing a representative sample in terms of the different regions and provinces. However, there is a small overrepresentation of municipalities with a higher population density as more large municipalities participated.

In the survey, local governments were first asked if they had adopted the circular economy in their policy agenda and how this was formalized. All respondents were asked about the barriers they had encountered or still encountered to adopt the circular economy. Next, those who already adopted the circular economy were surveyed on multiple dimensions through questions asking to rate the importance of different elements. These elements came from European policy frameworks and findings from prior exploratory research⁷⁻¹³.

For the analysis, first descriptive statistics were used. Where significant, we discuss the differences across regions (Flanders, Brussels, Wallonia). In the second stage, a cluster analysis was used to see if different approaches to adopting the circular economy could be observed among

Belgian local governments. The results are discussed in the next section. Note that this survey is based on single informant responses and can be influenced by the self-selection nature.



54%
Response rate



03

BELGIAN CONTEXT

Belgium counts 581 municipalities with together over 11,7 million inhabitants split over three regions: Brussels, Flanders, and Wallonia. Brussels is the capital region and contains 19 municipalities. Flanders is more urbanized than Wallonia and contains 300 municipalities, while Wallonia has 262. Each region has its own government, and power is divided between the federal and regional levels.

As part of the European Union, the Belgian federal and regional governments have also adopted policies for implementing a circular economy. The federal government launched an action plan in 2021 with several objectives for 2024¹⁴. The regional government of Brussels is already committed to implementing circular initiatives since 2016¹⁵. In 2021, Wallonia launched a deployment strategy

for the circular economy containing 60 measures¹⁶. The Flemish regional government expressed its vision of a circular economy by 2050 in its long-term strategy in 2018¹⁷. Both Wallonia and Flanders also created an organization responsible for implementing their circular ambitions: Circular Wallonia and Circular Flanders.

At the local level, each municipality has a local government that has many different responsibilities ranging from waste management to schools, housing, and recreation.



04

RESULTS

WHY

Before answering the question of *why* the circular economy was adopted, we had to know if it was already adopted by Belgian local governments.

ADOPTION

shows that **at least 31% of all Belgian local governments have adopted the circular economy.**

Especially for the local governments of Brussels, 83% of the respondents had adopted the circular economy, while 62% for Wallonia and 55% for Flanders. Finally, at this stage of the survey, no definition was given of the circular economy as this was questioned later in the survey (see next section).



Figure 1 - Adoption of circular economy in Belgian municipalities

From prior research, we knew that at least some municipalities were already committed to the circular economy. At the time, 4 Belgian local governments (Bruges, Ghent, Leuven, and Mechelen) had signed the Circular Cities Declaration¹⁸, which is a European initiative to gather local governments that are committed to implementing the circular economy. However, there was no general knowledge about the level of adoption among local governments in Belgium. The results of our survey showed that out of the 309 local governments that participated, **182 said to have adopted the circular economy on their policy agenda. This corresponds to an adoption rate of 59% among the respondents.**

It can be expected that local governments that had already adopted the circular economy were more likely to participate in this study, so this might be an overestimation. However, this still

FORMALIZATION

When asked how local governments formalized the circular economy (CE), we found that most of the time, this was **through one or several projects planned, ongoing, or completed**. In addition, the circular economy was **often part of their climate action plan or multiannual plan**. To a lesser extent, the circular economy was formalized as part of the job of their own staff or with a specific budget. Ten local governments had a dedicated written strategy for it.

As it was possible to select multiple options, we found that 67% of the respondents only selected one or two options. In most cases, local governments had one or several projects on the

circular economy in combination with having it as part of the climate action plan or multiannual plan. Only 4 local governments selected all options.

From the average amount of options that were selected, which gives an indication of the level of formalization, we saw that, indeed, Brussels local governments had a higher level of formalization, followed by Flemish and then Walloon local governments. We also observed that Brussels and Flemish local governments had the circular economy as part of their climate action plan (SECAP), while Walloon local governments had it more often as part of their multiannual plan.



Figure 2 - How is the circular economy formalized

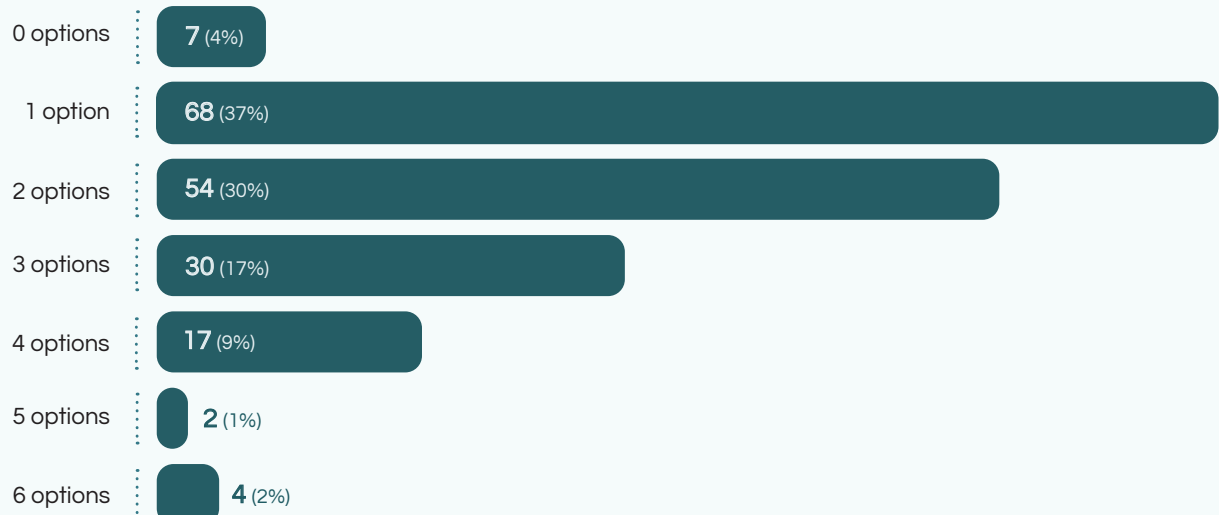


Figure 3 - Number of formalization options selected

MOTIVATIONS

For those who had adopted the circular economy, a question followed on the motivations of adopting it to identify *why* it was adopted. Respondents were asked to rate the importance of 8 possible motivations. Overall, the two most important motivations were to **tackle climate change and other environmental issues like pollution and biodiversity loss**, clearly showing that the environmental dimension is a fundamental reason for adopting the circular economy.

But the social dimension of the circular economy is not omitted as **improving the social situation** is the third most important motivation. The advantages of the circular economy for the social dimensions are, for example, increased access to products and services through sharing instead of having to own products like cars.

Another important motivation on the fourth place was to improve the municipality's image and reputation, showing that the circular economy can be of added value to local governments, although it should be avoided that it is used only for this and results in greenwashing. The more traditional motivations of the circular economy to create economic opportunities and to tackle material scarcity were only the fifth and the sixth most important for respondents.

The least important were pressures from either citizens and local stakeholders or higher levels of government, reflecting a positive view of the circular economy as something local governments want to adopt to solve problems and not just because they have to.

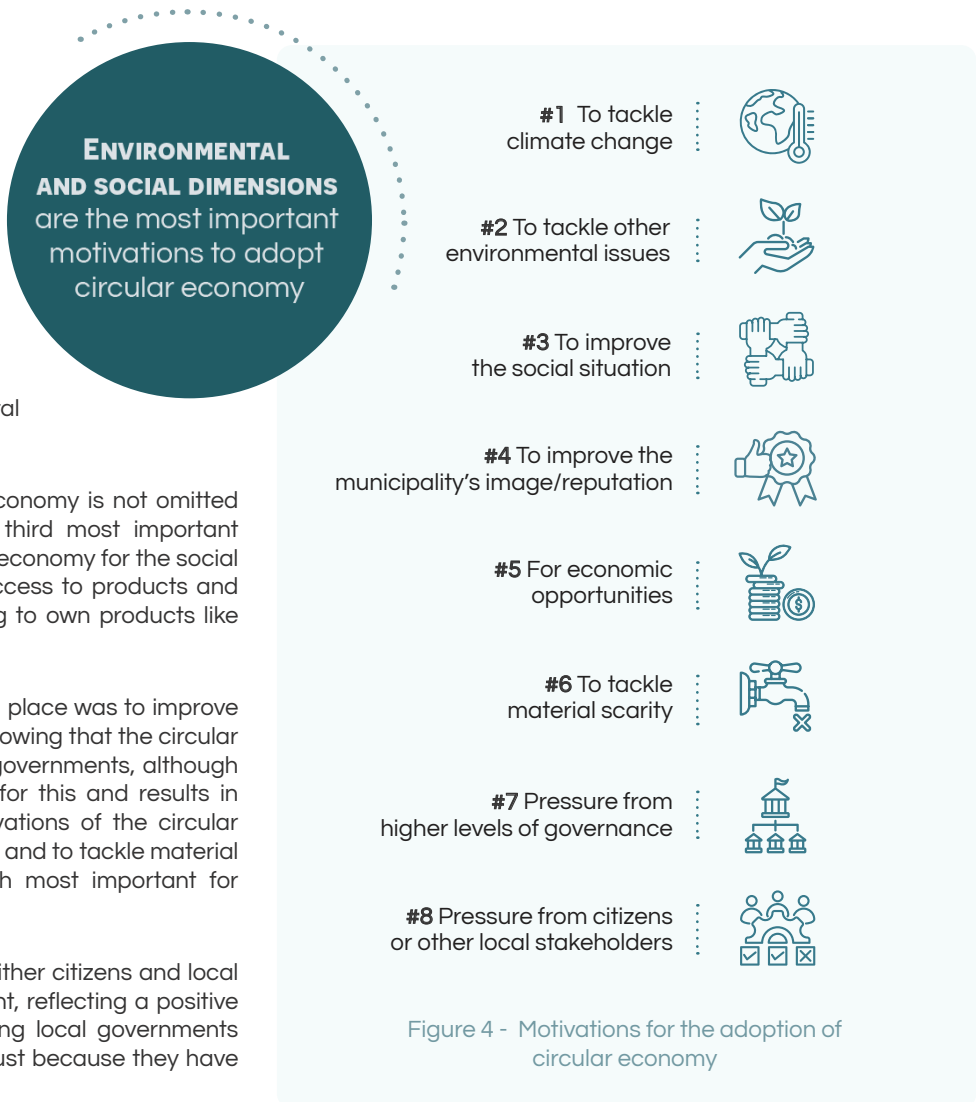


Figure 4 - Motivations for the adoption of circular economy



BARRIERS

We asked both the local governments that did not yet adopt the circular economy and those that did about the barriers they encountered. All four types of barriers proposed in the survey were very important to them. Most important was the **lack of funding**, followed by a **lack of knowledge and awareness** of the circular economy.

Less important was the lack of appropriate regulation, taxation & policies, and the lack of political support. This shows that there is not just one barrier that needs to be overcome but a range of interrelated barriers. For example, political support is needed to get more funding, and with this funding, knowledge can be obtained through training or hiring experts.

LACK OF RESOURCES

(both financial and cognitive)



#1
Funding



#2
Knowledge &
awareness

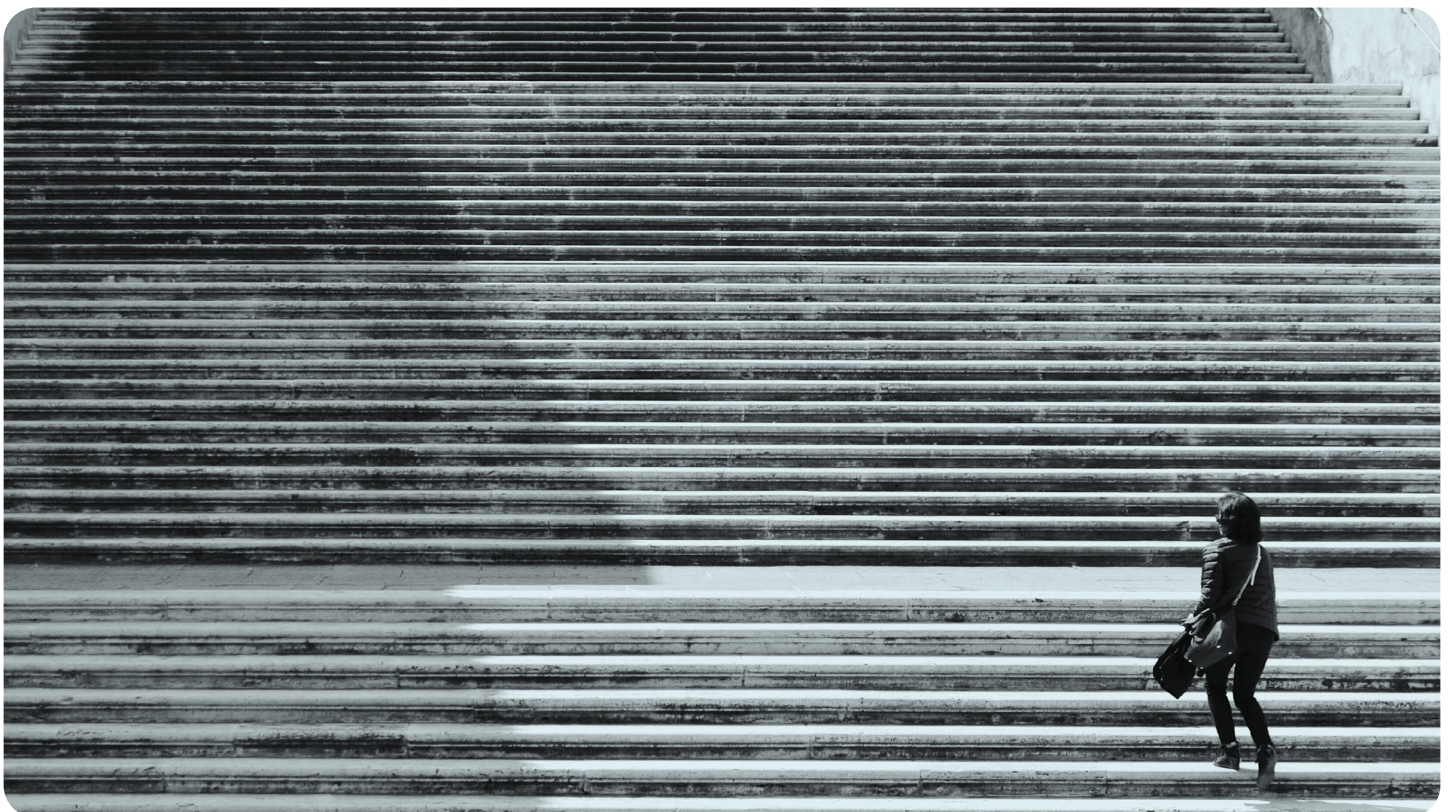


#3
Appropriate
regulation,
taxation &
policies



#4
Political
support

Figure 5 - Barriers to the adoption of the circular economy on the agenda



WHAT

Two questions were asked to know *what* aspects and value chains local governments focus on when adopting the circular economy into their policy agenda.

CIRCULAR ASPECTS

As an umbrella term, the circular economy covers a lot of different solutions to the linear economy. To know what aspects of the circular economy local governments focused on, they were asked to rank the importance of seven circular principles. Not surprisingly **local production** was rated as the most important. Also more than averagely important were: reuse and closing material cycles, conservation to keep products in use for as long as possible, and the use of renewable resources. Less important were the sharing of resources, improving material efficiency, and servitization and virtualization (offering products as a service or in a digital way).

VALUE CHAINS

These circular aspects apply to different product value chains. Therefore, we asked to rate the importance of 7 product value chains identified by the European Commission as having the highest circular potential. The most important product value chain for Belgian local governments was the one of **food, water & nutrients**, representing the biological value chains. Food and water are important topics for local governments

as the value chains are more local compared to, for example, textile, which is the least important product value chain.

The second most important value chain is **construction & buildings**. Circular building has been a main theme in the circular economy for several years, as this value chain is responsible for a large part of our material consumption and energy use. We stress that this does not only consider new buildings but, in the first place, questions the need for new buildings and aims to use existing buildings more efficiently or to reuse the materials.

Two more value chains scored more than averagely important, packaging and plastics, mainly considering the issue of our waste generation. Less than averagely important were electronics, ICT, batteries, and vehicles.



SMART & CIRCULAR CITY

Apart from these general results, the cluster analysis showed the existence of a group of local governments that also focused on the **digital or smart transition**. This was reflected in giving a significantly higher score to the circular aspect of servitization and virtualization and also to the product value chains of batteries, vehicles, electronics, and ICT. The so called 'twin transition', bringing together the closely related concepts of smart city and circular city, has indeed great potential to improve sustainability at the local level. Many circular initiatives, such as shared mobility solutions (e.g Cambio) or food waste prevention projects (e.g Too Good to Go), cannot function without digital technologies. This focus was more often observed in urban environments and in Flemish municipalities.

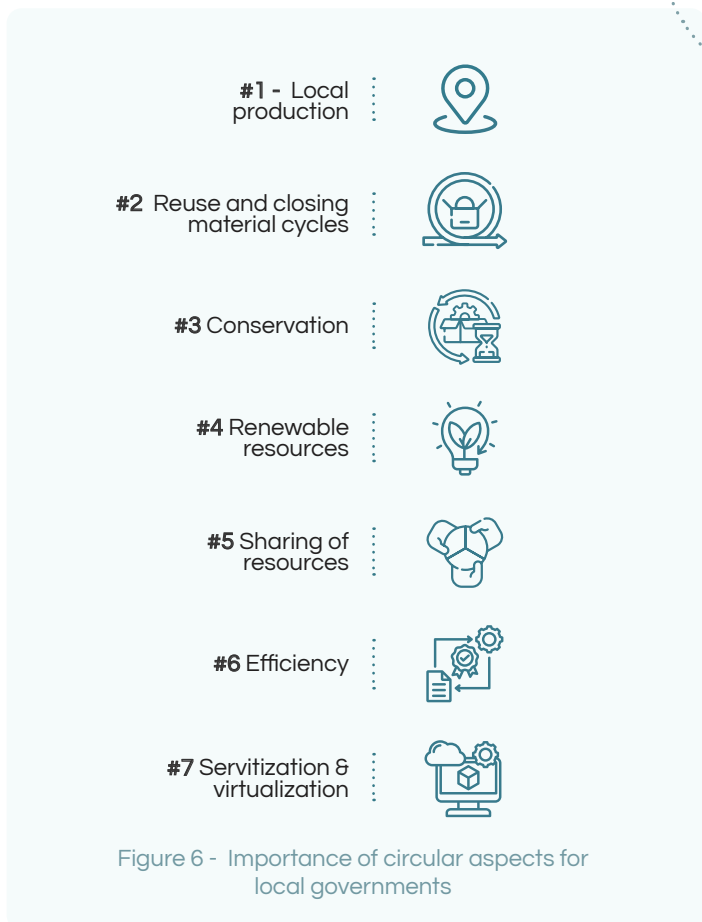
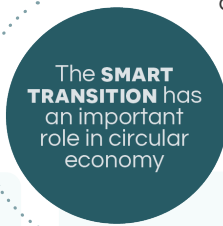


Figure 6 - Importance of circular aspects for local governments

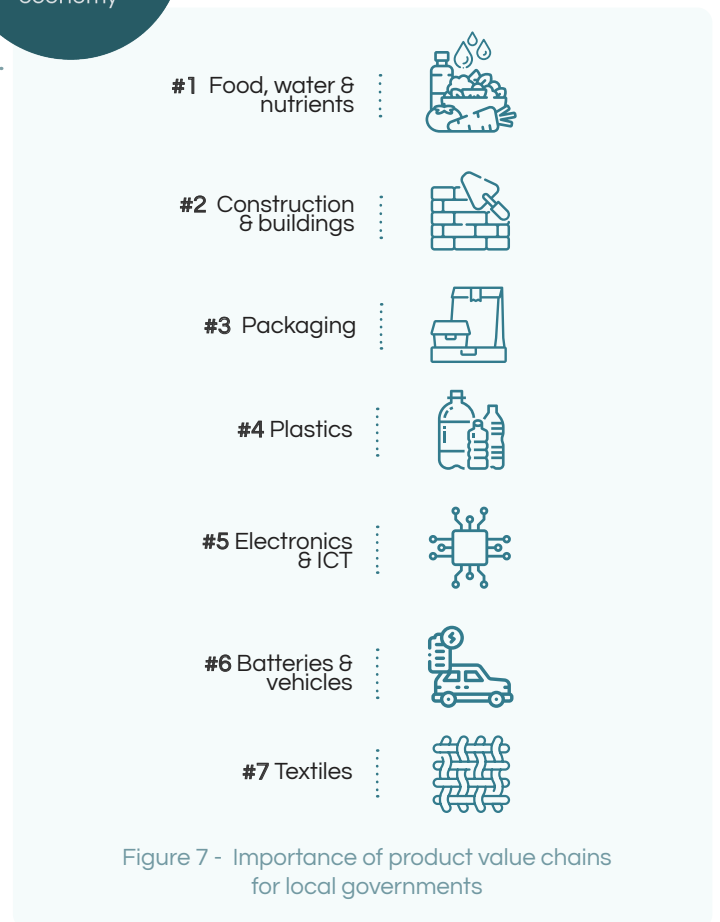


Figure 7 - Importance of product value chains for local governments

HOW

Lastly, the aim was to understand how Belgian local governments aimed to implement the circular economy. Therefore, we questioned the importance of different local policy instruments and stakeholders.



POLICY INSTRUMENTS

From the local government’s perspective, there are different roles that a local government can take, and different policy instruments can be used. This can range from hard measures using regulative tools (e.g permits) to soft actions (e.g awareness campaigns). In the survey, we asked to rate the importance of 8 different policy instruments for the circular economy.

Leading by example was rated the most important role. As public sector organizations, being elected by citizens and using public money, it is indeed important that local governments lead by example. This will also give local governments credibility when trying to convince others to become circular. To lead by example, local governments can **integrate circular principles in their operations and public procurement**. Adopting circular principles in procurement creates a market incentive for businesses to integrate the circular economy. Given the importance of buildings, local governments will need to think about the circular use and management of their own patrimony.

In addition, soft policy instruments were also rated as highly important, such as **providing funding** to stimulate circularity and to inform and raise awareness. The ranking from a decreasing level of importance continues with providing strategic positioning, stimulating bottom-up initiatives, connecting stakeholders, using legislation & taxation, and stimulating innovation.

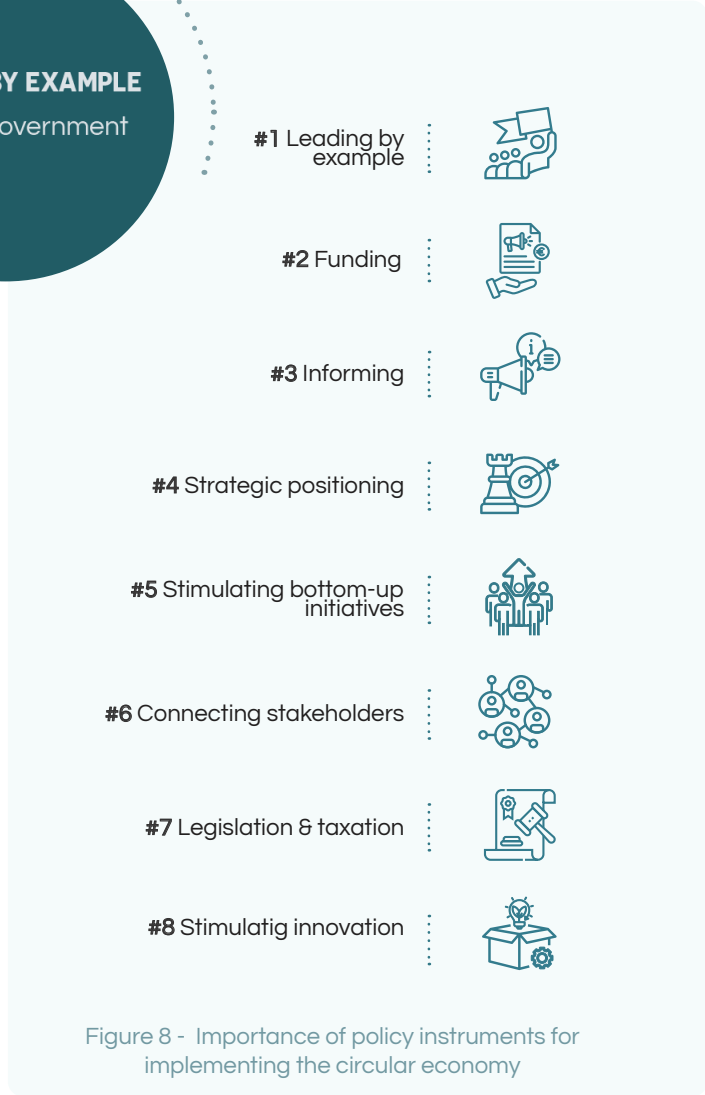


Figure 8 - Importance of policy instruments for implementing the circular economy

STAKEHOLDERS

Local governments are not able to implement the circular economy only by themselves. To know what stakeholder groups are considered essential for implementing the circular economy, we asked to rate the importance of the 4 stakeholder groups of the quadruple helix (e.i., governments, businesses, knowledge institutions and civil society). **All 4 groups were rated highly important.** However, when exploring the data

more in-depth, we identified two groups of local governments. For one group, **businesses** were most important, reflecting a focus on the responsibility of producers. Most rural and Walloon local governments were in this group. For the second group, **civil society and the governments** were most important, reflecting the need for societal change. This group contained most urban and Flemish local governments. For Brussels, two local governments were in the first group, while five were in the later.

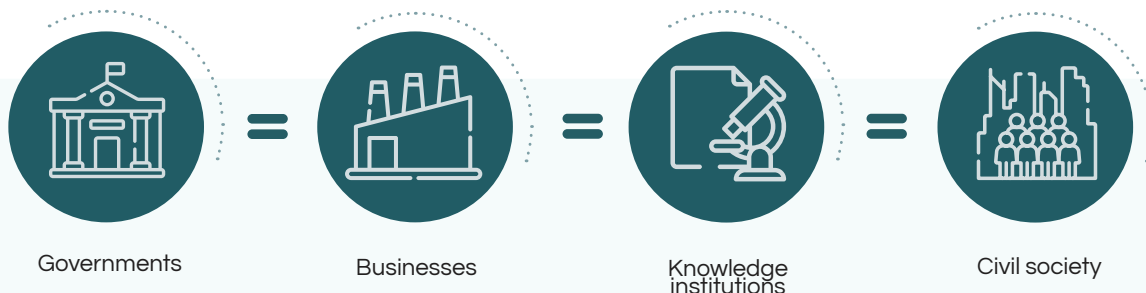


Figure 9 - Importance of stakeholders to involve in the implementation of the circular economy

05

CONCLUSION

This empirical study shows that Belgian local governments have started to adopt the circular economy into their policy agenda. However, many have not yet done so and those who did are only in an early phase.

Belgian local governments mainly adopt the circular economy to address environmental and social problems, recognizing its potential to contribute towards sustainability. Although these good intentions, support is needed to overcome the barriers local governments encounter. There is a need to inform and create awareness of the circular economy and provide resources to implement circular policies and initiatives.

The successful implementation of the circular economy will require local governments to closely work together with their stakeholders. These include businesses, schools, research centers, nonprofits, and citizens to make sure that circular solutions are supported by the ecosystem. Our further research shows the importance of local governments to work together to learn about best practices. Governments and organizations at the provincial, regional, national, and supranational levels have a key role in facilitating this knowledge sharing to accelerate the circular transition.

Since the end of 2022, when this survey was conducted, the circular transition has continued. For example, cities like Liège and Hasselt have signed the Circular Cities Declaration¹⁹, showing their commitment. In Brussels, the Circlemade hub was created to gather organizations that apply circular methods. Both Circular Wallonia and Circular Flanders have also launched many initiatives to promote the circular economy in their region. Circular Wallonia, for example, supports the green transformation of the Walloon industry by providing funding for circular projects. Circular Flanders has launched a program focused on local governments where they helped to develop strategies, trained public officers, and connected them in communities of practice. However, a lot of work still remains to be done, and the new legislature will be crucial for the further implementation of the circular economy if we want to achieve our sustainability and climate objectives.



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RESOURCES FOR FURTHER INFORMATION

BRUSSELS

- Be circular : <https://www.circulareconomy.brussels/>
- Circlemade : <https://circlemade.brussels/>

FLANDERS

- Circular Flanders > Lokaal Circulair : <https://vlaanderen-circulair.be/nl/aan-de-slag/lokaal-circulair>
- VVSG : <https://www.vvsg.be/milieu-klimaat-duurzaamheid/circulaire-economie>

WALLONIA

- Circular Wallonia : <https://economiecirculaire.wallonie.be/fr>

EUROPE

- Circular Cities and Regions Initiative : <https://circular-cities-and-regions.ec.europa.eu/>
- European Investment Bank:
 - The 15 circular steps for cities : <https://www.eib.org/en/publications/circular-economy-15-steps-for-cities>
 - A guide for developing a circular city strategy : https://advisory.eib.org/_tools/resources/documents/a-guide-for-developing-a-circular-city-strategy-draft-february-2023.pdf
- ICLEI
 - Circular city declaration : <https://circularcitiesdeclaration.eu/>
 - Circular city actions framework : https://circulars.iclei.org/wp-content/uploads/2021/10/Circular-City-Action-Framework_V2.pdf
- EU projects
 - REFLOW : <https://reflowproject.eu/>
 - City Loops : <https://cityloops.eu/>

GLOBAL

- OECD programme on the circular economy in cities and regions : <https://www.oecd.org/regional/cities/circular-economy-cities.htm>
- Ganbatte : <https://ganbatte.world/cities/what-is-a-circular-city/>
- Ellen Macarthur Foundation : <https://www.ellenmacarthurfoundation.org/topics/cities/overview>
- UNECE: A guide for circular cities : <https://unece.org/housing/publications/guide-circular-cities>

**SMART CITY INSTITUTE
& CENTRE FOR
ENVIRONMENTAL
SCIENCES**

THE SMART CITY INSTITUTE



The Smart City Institute is an academic institute dedicated to the theme of sustainable and smart territories. It is based at the HEC Liège, the School of Management of the University of Liège (ULiège).

The Smart City Institute approaches the theme of sustainable and smart territories from a managerial angle (and not just a technical and technological one). Its activities are built around three complementary pillars: research, teaching and support for innovation. These are supported by cross-functional awareness-raising activities.

In concrete terms, the Smart City Institute:

- Publishes scientific articles and research reports on the theme of sustainable and smart territories;
- Studies the Smart City dynamic in Belgium and Wallonia, and its evolution through barometers;
- Develops didactic tools to motivate municipalities to take part in the Smart City dynamic (e.g. a collection of Practical Guides, models, digital material, etc.);
- Organizes training activities (e.g. thematic workshops, seminar) that address the essential managerial issues of the Smart City;
- Organizes an annual event at which academics and practitioners are brought together to discuss and exchange views on the sustainable and smart transition of territories;
- Supports innovation in the field of Smart Cities.
- As an academic referent supported by Wallonia in the context of its Smart Region program in the Digital Wallonia strategy, the Smart City Institute actively contributes to the Smart City and Smart Region dynamic in Wallonia, but it also regularly carries out projects with a national and international vocation.

THE CENTRE FOR ENVIRONMENTAL SCIENCES



The Centre for Environmental Sciences is a multidisciplinary research centre of Hasselt University that performs research on environmental problems. The Centre brings together researchers from biology, chemistry, medicine, engineering, economy, and law to take a holistic approach to studying environmental issues. Founded in 1997, the centre recently celebrated its 25th anniversary and currently includes 227 researchers from 38 different nationalities.

The expertise of the institute is situated around:

- Studying how the environment and climate change affect human health and the ecosystem.
- Creating a cleaner future with bio-based pollution removal and bio-based products.
- Understanding tomorrow's challenges through monitoring biodiversity and educational & policy transition.

As an internationally renowned institution, the center pursues rigorous research and actionable results serving both business and society.

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