



CIRCULAR ECONOMY AS A SUCCESS FACTOR FOR CITIES

The circular economy is an opportunity for cities to strengthen environmentally friendly industrial and commercial policies. Cities are different and each have their own resources for blazing the trail in the circular economy.

However, in the circular economy, markets and jobs do not emerge spontaneously meaning that cities need to lead the transition into a circular economy together with businesses, residents, and research institutes. Cities have good tools for doing this, such as zoning, strategic management, business partnerships, and reorienting public procurement. Cities reap the benefits when different sectors adopt circular economy activities and contribute to the overall vitality of the city. Supporting the agency and actions of the third sector and residents in the creation of a circular economy is also crucial.

This policy recommendation presents four research-based objectives to promote the circular economy in cities. In addition to cities, all municipalities and regions irrespective of size can apply the measures set out in this recommendation.

- 1. Divide the systemic change into intermediate goals**
- 2. Recognise the city's circular economy potential**
- 3. Know the city's pulling power — the basics and specifics of the circular economy**
- 4. Regard the circular economy as a pathway to sustainability**

1

Divide the systemic change into intermediate goals

Cities not only enable the circular economy but are its key developers. Cities, together with their stakeholders, have already undertaken actions to support the circular economy. *Table 1* gives an overview of the ways circular economy is best implemented by Finnish cities.

However, even the most advanced cities are still taking baby steps. As it requires a major change of mindsets, practices, and decision-making, a phased strategy and intermediate milestones are needed to accelerate the transition into circular economy. Effective stakeholder involvement is needed to achieve the sustainability goals of the circular economy (Prendeville et al. 2018).

| ASPECTS OF CIRCULAR ECONOMY | ACTIONS | MOST SIGNIFICANT ACTORS |
|--|---|--|
| Industrial symbioses and areas of circular economy | Companies' mutually integrated business models | Businesses |
| Recycling of soil resources | Coordinating the management and recycling of soil resources | City |
| Urban planning projects | Adopting new principles in planning and implementation | Residents |
| Construction | Reuse and recycling of raw materials, reorganisation of facilities and operations | Resident groups that produce services |
| Sharing economy | The same products may be used several times by several users | Producers and new types of groups formed around food |
| Food | Local and regional production chains, minimising food waste | Producers and new types of groups formed around food |

Table 1
Aspects of circular economy and actors in cities

What is the circular economy?

The circular economy refers to closing the material, energy and nutrient loops and operating in a way that retains the value of products, materials, and resources in the economy for as long as possible. In this way, the circular economy aims to adapt the use of natural resources within suitable limits and to support climate goals and the preservation of biodiversity. As the supply chains of materials and waste flows are global, this goal is local and global at the same time. The circular economy is often mistakenly equated with the recycling of materials or waste only, which misses the broader pursuit of the circular economy to achieve sustainable societies and a new kind of economy.

In practice, the circular economy means, for example, interconnected business activities, closed industrial

production processes, and cities that are planned to support the local loops of materials, nutrients, and energy. As we move away from the throw-away culture, we need to develop services that reduce the use of materials and extend the life of products. Products should be maintainable, repairable, and reusable. Recycling the materials is just the last point in this process.

The circular economy is shown in the actions of businesses, cities, other organisations, and citizens. The systemic change (Wolfram & Frantzeskaki 2016) to a circular economy requires governance and broad co-operation at different levels of society. The promotion of a sustainable circular economy must consider the economic, social, and environmental impacts of actions from the perspective of stakeholder expectations.

2

Recognise the city's circular economy potential

Circular economy potential refers to cities' potential for promoting the circular economy. Research shows that this potential varies between cities (*Table 2*). The variance is caused, for example, by the size and quality of the material flows through a city, the type of economic structure, and the level of civic engagement. Therefore, promoting the circular economy involves aspects that are relevant to all cities as well as aspects that are diverse and specific to the cities.

Every city should have a **roadmap for promoting the circular economy**. A roadmap or other strategic programme makes it easier for the city and stakeholders to implement the circular economy. The roadmap can be used to jointly identify the city's circular economy potential, set targets, and agree on the responsibilities and implementation plans. The circular economy is a rapidly growing sector. Cities have already produced their first roadmaps; however, these maps must still be regularly updated and the progress towards reaching the goals monitored.

| CITY | SPECIFIC ACTIONS | ORGANISATION |
|---------|---|---|
| Espoo | Regional development of Kera based on a partnership model | The city and big businesses co-operate |
| Lahti | Wide-ranging approach to implementing a circular economy | Launched pro-actively with the Päijät-Häme region |
| Tampere | Hiedanranta constructed as first suburb to implement a circular economy | In the first stage, Hiedanranta acts as a pilot area for the circular economy |
| Turku | Strategy underpinned by the concept of wise use of resources | A long history of circular economy policy development |

Table 2
The diversity of cities as implementers of the circular economy (Nylén et al. 2021).

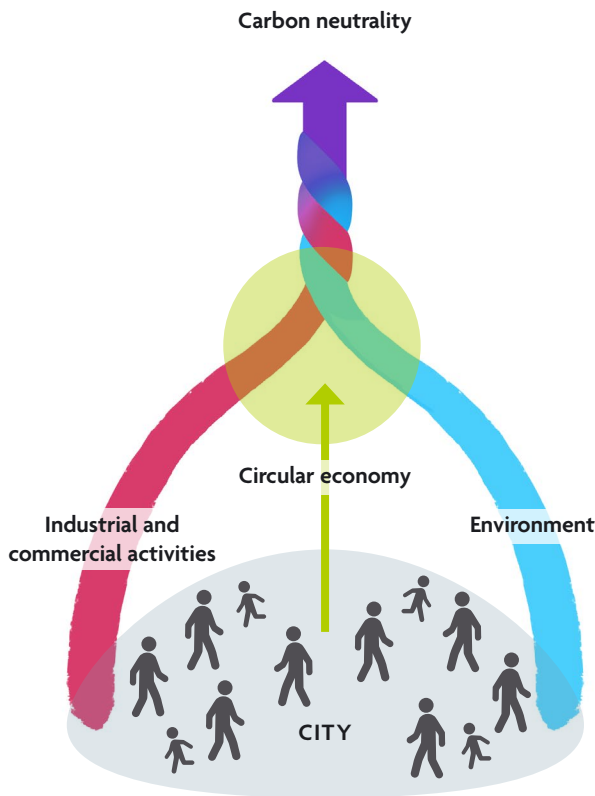
3

Know the city's pulling power — the basics and specifics of the circular economy

Cities can attract new residents, businesses, and capital by assuming a favourable approach to sustainability. Promoting the circular economy should therefore be an urban strategy objective and a means for creating a positive brand for the city. The basic level of urban circular economy can be seen to include the elements presented in *Table 1*.

The promotion of public procurement in cities is one of the most important basic objectives of the circular economy. This objective underlines the importance of business policy and the creation of a circular economy market. Every city should also ensure that businesses, residents, and other actors can participate in the promotion of the circular economy; they should be given more opportunities for participation, initiative, and the co-creation of the circular economy.

Cities can differentiate from other cities by promoting the circular economy in original ways. The opportunities for doing this vary between cities and should be identified by each city individually (*Table 2*). An imaginative circular economy solution can make a city stand out at the same time as it strengthens the shared capital of the circular economy. New circular economy innovations spread across national and international urban networks, but their local deployment always requires learning, adaptation and perhaps the production of new solutions.



A sustainable circular economy promotes the renewal of cities

Cities can use the circular economy to strengthen their environmental performance and achieve a wide range of synergies. Planning is facilitated by the fact that there are many ways to introduce the **circular economy as a new priority in a city's economic and environmental strategy**. The circular economy is firmly linked to cities' ambition to achieve carbon neutrality. Above all, the circular economy offers a fresh development pathway for combining a city's economic policy objectives — such as supporting businesses and employment — with strengthening the city's environmental policy. Circular economy experiments activate the renewal of businesses and industries and promote creative citizenship, new ways to use facilities, and social innovation (Turku et al. 2021).

Sources

Nylén, Erkki-Jussi, Riki, Aleksandra, Jokinen, Ari & Jokinen, Pekka (2021) Kiertotalouden kestävyyslupaukset. Espoon, Lahden, Tampereen ja Turun kaupunkistrategioiden vertailu. *Yhteiskuntapolitiikka*, tulossa.

Prendeville, Sharon, Cherim, Emma & Bocken, Nancy (2018) Circular cities: Mapping six cities in transition. *Environmental Innovation and Societal Transitions* 26, 171-194.

Turku, Veera, Jokinen, Ari & Jokinen, Pekka (2021) Elävät kaupunkilaboratoriot: kulttuuritoimijat Tampereen Hiedanrannan uudistajina. *Hallinnon Tutkimus* 40 (1), 53–68.

Uusi suunta. Ehdotus kiertotalouden strategiseksi ohjelmaksi. Valtioneuvoston julkaisu 2021:1. <http://urn.fi/URN:ISBN:978-952-383-658-7>

Wolfram, Marc & Frantzeskaki, Niki (2016) Cities and systemic change for sustainability: Prevailing epistemologies and an emerging research agenda. *Sustainability*, 8(2), 144.

Why should cities promote the circular economy?

Now is the momentum for the circular economy, which means that cities should seize the opportunity. Cities are key players in the circular economy because they are the hubs of a wide range of resources and capabilities. This enables them to translate broad sustainability goals into local opportunities. Cities are used to working with residents, businesses, and research institutions to find imaginative solutions to environmental problems that also create local vitality and prosperity. Such cities are frontrunners and will be followed by other municipalities.

The circular economy allows cities to combine environmental benefits with their economic policy objectives on employment and the renewal of commercial and industrial branches. Cities' breakthroughs in the circular economy are heavily supported by the European Union's growing commitment to the circular economy and Finland's Circular Economy Programme published in December 2020.

CICAT »2025

The *CICAT 2025 Circular Economy Catalysts: From Innovation to Business Ecosystems* research project aims to facilitate the transition into a sustainable circular economy and supports Finland's strategic objective to become a global leader in this field by 2025. The multidisciplinary consortium is producing new knowledge on factors that promote the circular economy. It also offers concrete solutions to businesses and decision-makers that will help to facilitate the transition. The project is funded by the Strategic Research Council of the Academy of Finland.

A sustainable circular economy means reducing the use of natural resources, closing the material, energy, and nutrient loops, and ensuring that the value of products, materials and resources is retained in the economy for as long as possible.

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