

# THE 15 CIRCULAR STEPS FOR CITIES

Third edition

Draft February 2022



European  
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Europe's gateway to investment support



**CIRCLE**  
ECONOMY

# CONTENTS

## The 15 circular steps for cities – Third edition, Draft February 2022

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<b>1</b>	<b>INTRODUCTION</b>	<b>4-8</b>		
	Why a circular economy?			
	What problems face cities today?			
	Why are cities relevant in the circular transition?			
	What will a circular city look like tomorrow?			
<b>2</b>	<b>THE 15 CIRCULAR STEPS FOR CITIES</b>	<b>9-41</b>		
	<b>Phase 1 - Prepare and Plan</b>	<b>10-19</b>		
	<b>Step 1</b> - Connect and facilitate cooperation among circular stakeholders			
	<b>Step 2</b> - Characterise and analyse local context and resource flows, and identify idle assets			
	<b>Step 3</b> - Collect good circular examples and learn from the experience of other cities			
	<b>Step 4</b> - Conceptualise circular options for priority sectors and municipal services and assets			
	<b>Step 5</b> - Craft a circular vision and strategy with clear goals and targets			
	<b>Phase 2 - Facilitate</b>	<b>20-29</b>		
	<b>Step 6</b> - Coach and educate to mobilise citizens, businesses and civil society			
	<b>Step 7</b> - Create an enabling environment for circular businesses and citizens			
	<b>Step 8</b> - Champion and procure circular assets, products and services			
	<b>Step 9</b> - Cultivate and support circular businesses			
	<b>Step 10</b> - Catalyse circular innovations and support their mainstreaming			
	<b>Phase 3 - Act</b>	<b>30-39</b>		
	<b>Step 11</b> - Close loops by connecting generators and potential users of waste/residues/water/heat etc.			
	<b>Step 12</b> - Care for assets to extend their useful lives, and re-engage idle assets to increase their use			
	<b>Step 13</b> - Construct circular buildings and infrastructure and incentivise other developers to follow suit			
	<b>Step 14</b> - Channel funding and financing to circular projects			
	<b>Step 15</b> - Communicate on circular progress based on monitoring			
	<b>Summary</b>	<b>40-41</b>		
<b>3</b>	<b>THE EIB SUPPORTS CITIES IN THEIR CIRCULAR TRANSITION</b>	<b>42</b>		
	<b>REFERENCES</b>	<b>43</b>		

# 1. INTRODUCTION

## Why a circular economy?

As the global population grows in number and prosperity, the increasing consumption and related extraction of scarce and finite resources has become unsustainable. A fundamental change in our current economic system is needed to decouple growth and prosperity from the use of natural resources. This will require a shift from our current linear take-make-use-dispose production and consumption approach to a more circular economy, where we maximise the use and utility of resources, products, and assets, and minimise resource consumption and wastage in all forms.

In other words, a circular economy can satisfy societal needs in a way that uses resources more effectively. In its most simple form, the circular economy transition can be depicted in the following way.

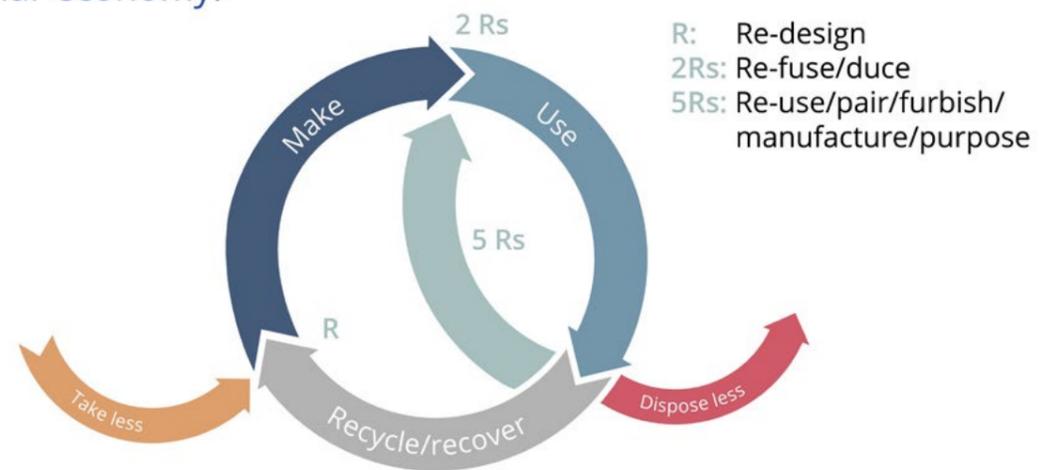
The transition to a circular economy not only conserves resources, but also fosters innovation and thereby increases competitiveness and creates new jobs. At the same time, the circular economy is increasingly being recognised as a significant contributor to reducing environmental and climate impacts. Indeed, resource extraction and use account for 70% of all greenhouse gas (GHG) emissions.<sup>1</sup> Aspiring to circular principles can reduce global GHG emissions and help build a city's economic and social capital in a way that respects planetary boundaries.

While this approach may seem new and revolutionary, the "Waste Not" imperative of the circular economy was a central principle in our society until the industrial revolution introduced a culture of mass production, consumption, and disposal. In a sense, the transition to a circular economy therefore involves going forward to the past.

From a linear economy:



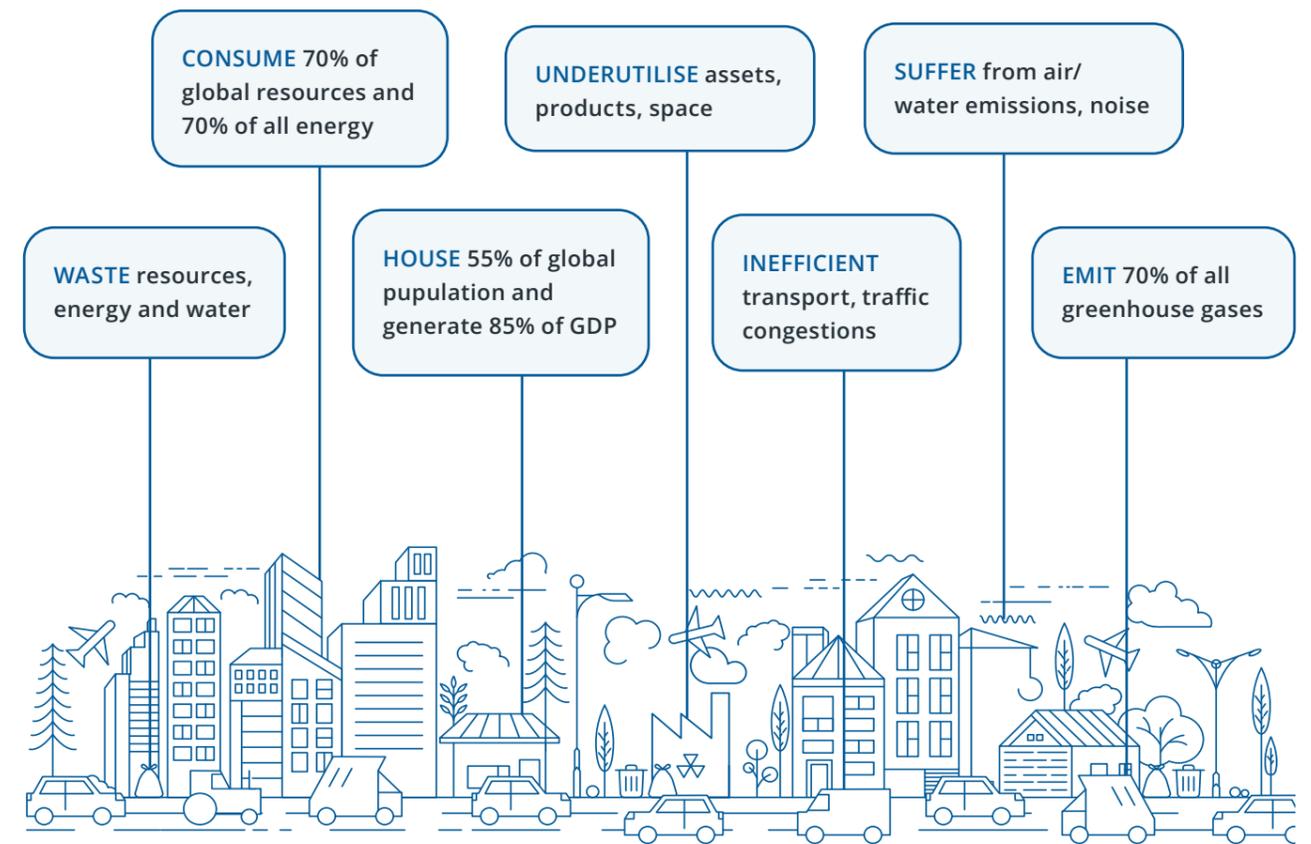
to a circular economy:



## What problems face cities today?

On a global scale, cities use about 3% of the Earth's land, and house about 55% of the world population (almost 75% in Europe).<sup>2</sup> With increasing urbanisation, the share of the population living in the world's cities is expected to increase to 70% by 2050, and up to 85% in Europe.<sup>3</sup> The impact of cities, however, extends beyond their borders. Cities consume about 70% of global resources and 70% of all energy generated. They are responsible for more than 70% of human-induced GHG emissions and 50% of waste generated. At the same time, cities make inefficient use of assets, resources, space, and time. For example, a car is parked more than 90% of the time on average, 30% of food is wasted, and the average office is used only 35-50% of the time.

Many cities suffer from what could be called linear externalities, for example emissions to air and water, noise and congestion caused by inefficiencies in assets and resource use. They are also exposed to the linear risks related to increased demand for resources and their limited availability or even scarcity. The COVID-19 pandemic has highlighted the risks associated with over-reliance on vulnerable global supply chains to the fore. Circular economy interventions can help cities to reduce such risks and build back better by making best use of available funds, reducing emissions, and increasing the resilience of the economy, while meeting climate targets.



Example of wastage and linear externalities in today's linear cities

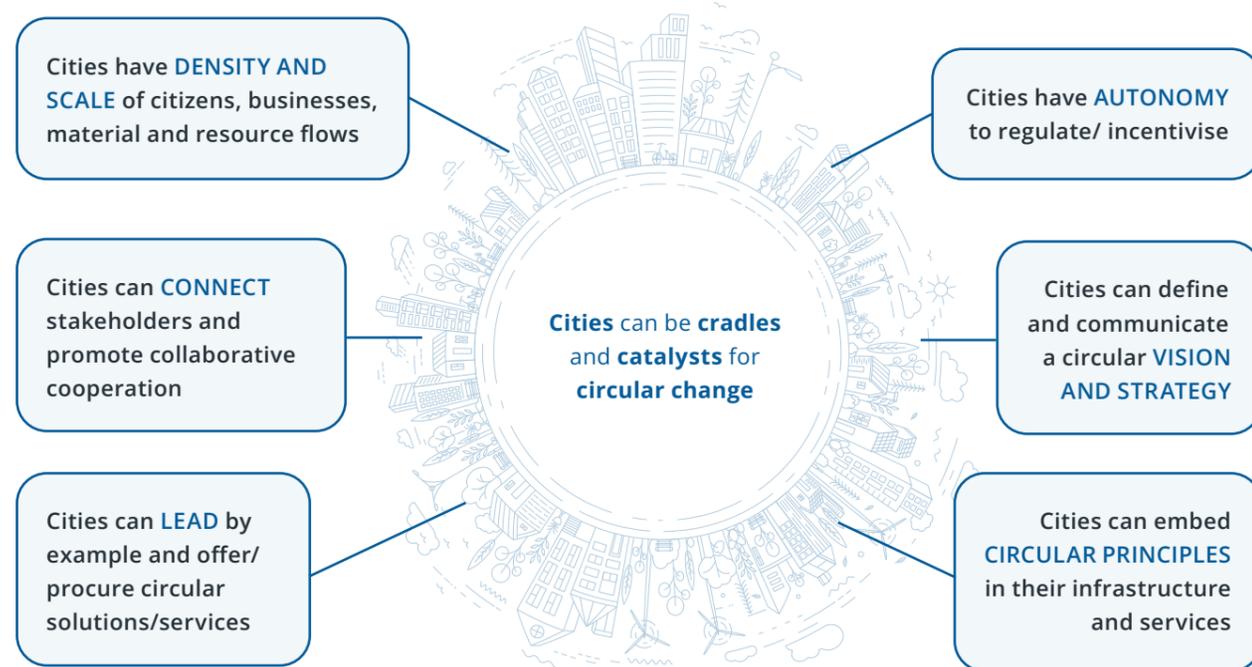
## Why are cities relevant in the circular transition?

While cities are the origin of many of our environmental problems, they can also be the solution. Cities have a density and concentration of producing businesses and consuming citizens that generate material and resource flows with circular potential. Most cities operate on a scale that, on the one hand, enables quick decisions, building on autonomous powers to regulate and incentivise, and on the other hand, is large enough to enable the establishment of new circular city functions and services, and circular business models. Cities also maintain infrastructure, utilities, and services with circular potential.

City administrations can define and communicate a circular vision, establish a circular strategy, and embed circular principles in city functions and

services, and thus create a good framework for the circular transition. City administrations can also lead by example, for instance, offering and/or procuring circular solutions and services. Finally, city administrations have the ability to build circular awareness and promote a culture of collaboration among all stakeholders.

In summary, a circular city is not just the sum of its circular activities. It must also fully realise and exploit its potential to be a cradle for circular development and use its governance tools and levers as catalysts for circular change.



Cities as cradles and catalysts for circular change

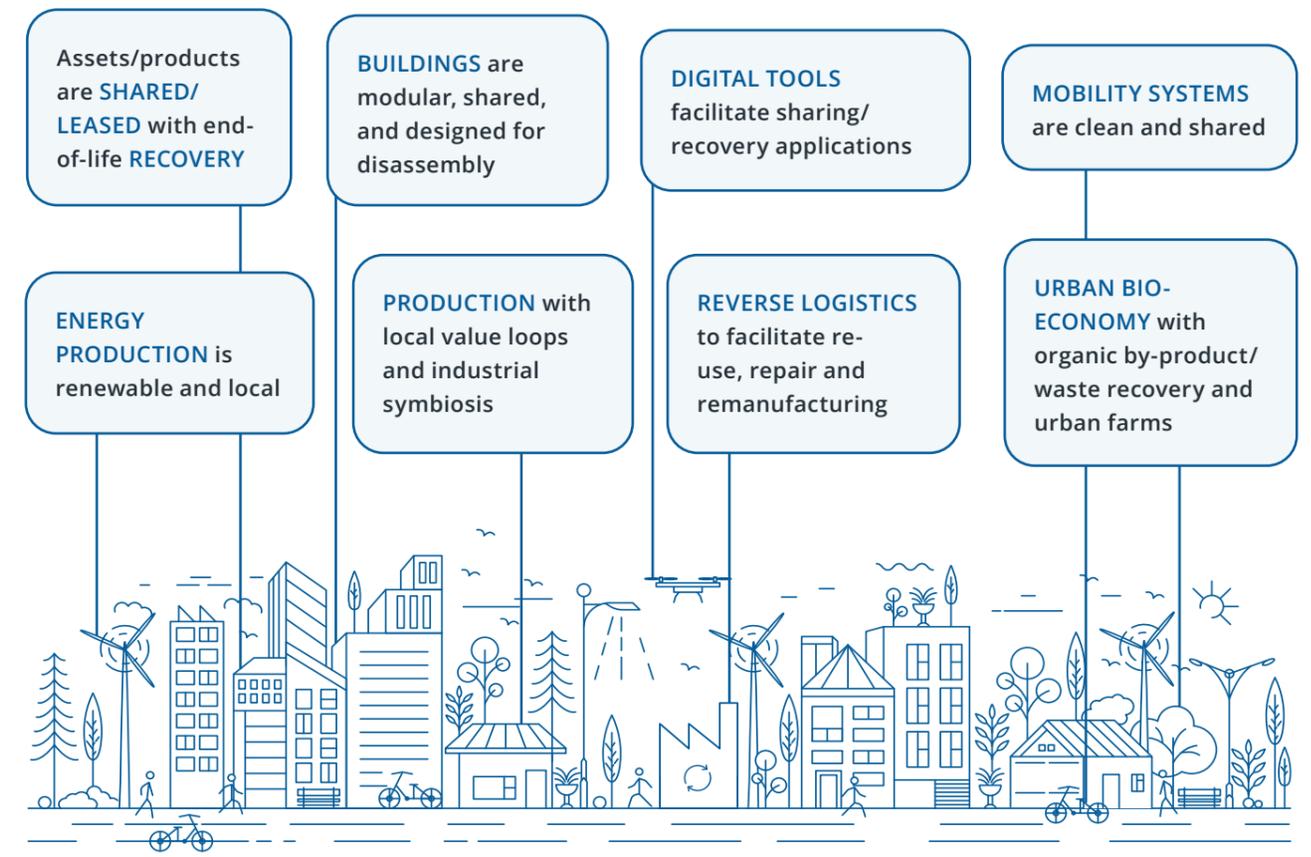
## What will a circular city look like tomorrow?

A circular city conserves and reuses resources and products, shares and increases use and utility of all assets, and minimises resource consumption and waste in all forms.

Circular cities have modular and flexible buildings designed for repurposing, to enable effective utilisation, and for disassembly rather than demolition, to facilitate reuse and recycling. They use renewable energy that is produced locally and regionally, powered for example, by the sun, wind or secondary resources to the extent possible.

Citizens use non-polluting, and efficient mobility systems, powered by renewable energies and, where possible, automated with sharing, pooling and on-demand services.

A local urban bio-economy ensures that all organic waste and by-products are recovered and used as feedstock for nutrient or chemical recovery, with residues used for energy generation and later returned to the soil. Urban farms recycle organic waste and by-products, reuse water and waste heat, and produce vegetables for the local market.



A circular city tomorrow

Waste and wastewater generation is minimised, with maximum value recovery, and residues are processed for return to soil or use in urban farming.

Production and consumption are localised to the extent possible, complemented with local product and material return loops and residue recovery. Companies are located in industrial clusters and matched to facilitate and enable industrial symbiosis where residues, by-products or waste heat/water generated by one company can be used by another, thereby saving feedstock costs for one company and waste management costs for the other.

Transport and delivery companies increase the efficiency of their operations by optimising distribution strategies and deploying low-emission vehicles. They engage in reverse logistics for take-back and returns of products for reuse, repair and remanufacturing for products and recycling for materials.

Circular test-labs, repair shops and sharing centres are available throughout the city to enable and encourage citizens and entrepreneurs to test and practice their new circular ideas and business models.

Digital tools facilitate asset/material tracking, and product/material/service exchanges facilitate sharing applications, industrial symbiosis and monitoring of circular progress.

Circular cities are regenerative and resilient to diminishing resource supplies and to climate change. They are also clean, prosperous, liveable, and therefore attractive for citizens, companies, city planners and decision-makers.

## 2. THE 15 CIRCULAR STEPS FOR CITIES

A city's journey towards circularity involves **preparing** and **planning** the circular transition, **facilitating** an enabling environment in which different stakeholders can play a role, and **taking circular action** on many different levels across the city. This guide defines 15 key steps in the circular journey for cities and provides guidance and relevant resources that can help in the implementation of each step. The 15 circular steps constitute an action-focused roadmap, where some of these steps are sequential, and others are not.

When applying these steps, a city must consider its context, characteristics, strengths, and weaknesses and identify both needs and opportunities and barriers and challenges to be addressed. The goal is to maximise the potential for the city to be a cradle for circular developments, and for the administration to catalyse this to the extent it can.

### PHASE 1 - PREPARE AND PLAN

To start the circular journey, the city administration together with all relevant stakeholders should look at current linear issues and future circular potential, and then map out a circular transition path. This phase comprises the following five steps.

**Step 1** - Connect and facilitate cooperation among circular stakeholders

**Step 2** - Characterise and analyse local context and resource flows, and identify idle assets

**Step 3** - Collect good circular examples and learn from the experience of other cities

**Step 4** - Conceptualise circular options for priority sectors and municipal services and assets

**Step 5** - Craft a circular vision and strategy with clear goals and targets

### PHASE 2 - FACILITATE

With the circular potential of a city translated into a vision and strategy for circular development, the city administration can facilitate the work and support relevant stakeholders through a series of steps.

**Step 6** - Coach and educate to mobilise citizens, businesses and civil society

**Step 7** - Create an enabling environment for circular businesses and citizens

**Step 8** - Champion and procure circular assets, products and services

**Step 9** - Cultivate and support circular businesses

**Step 10** - Catalyse circular innovations and support their mainstreaming

### PHASE 3 - ACT

To translate the momentum behind and ambition for the circular economy into action, the city administration and relevant stakeholders can support implementation through a number of key actions.

**Step 11** - Close loops by connecting generators and potential users of waste/residues/water/heat etc.

**Step 12** - Care for assets to extend their useful lives, and re-engage idle assets to increase their use

**Step 13** - Construct circular buildings and infrastructure and incentivise other developers to follow suit

**Step 14** - Channel funding and financing to circular projects

**Step 15** - Communicate on circular progress based on monitoring



## STEP 1

### Connect and facilitate cooperation among circular stakeholders

When starting the circular journey, it is important to involve all relevant local government departments (e.g. economic development, solid waste and water management, transport, housing, environment, finance, etc.) and non-governmental stakeholders to establish long-term engagement and commitment. Local governments cannot implement a circular economy on their own, and must mobilise local businesses, organisations and citizens to achieve impactful action. Engaging with local entities to build capacity and create a common understanding of challenges and opportunities helps to align actions toward agreed circular objectives and goals. Actively involving stakeholders will also reduce resistance to change and build a spirit of collaboration, resulting in a shared sense of ownership that will create positive momentum.

Shifting from linear to circular approaches requires innovative and sometimes new types of collaborations. For example, industrial symbiosis requires value chain cooperation to match the supply of residual and surplus materials with demand for such. It may also require connecting different value chains, for example using food processing by-products as feedstock for construction materials. Whereas establishing local value chain connections is important for the exchange of physical resources, linking to regional, national, or international platforms can provide useful inputs and inspiration from more advanced circular cities and businesses.

To connect and facilitate cooperation among circular stakeholders, a city should focus on the following actions:

#### Map local circular stakeholders for possible inclusion in the task team

Identifying and mobilising the right stakeholders at an early stage of the circular journey will ensure that diverse ideas, options, and views are considered, and can increase acceptance and buy-in for changes proposed.

#### Build capacity on circular economy principles and options for action

A shared understanding of what does and does not fit within the city's definition of a circular economy will create a common understanding from which options can be identified, discussed and agreed.

#### Leverage / establish local platform(s) for connection and interaction

Existing circular economy and sustainable city networks, platforms etc. should be considered as means to mobilise and connect circular stakeholders and facilitate their collaboration (see examples below). In cases where existing networks do not meet a city's needs (e.g. language), it may be worth establishing a new local network.

## USEFUL RESOURCES

### [ReFlow - Matrix of Circular Collaboration \[Tool / Approach\]](#)

The *Matrix of Circular Collaboration* tool can help to facilitate coordination, matchmaking and collaboration across various circular projects and initiatives within a city. The tool has been developed as part of the ReFlow project and is based on the *Public Engagement Canvas* elaborated by the University of the Arts London - Central Saint Martins within the T-Factor H2020 Project.

### [ReFlow via Kumu - Ecosystem map \[Tool\]](#)

This tool hosted via Kumu allows dynamic mapping and visualisation of a circular ecosystem, including stakeholders, individuals and circular initiatives and projects. The tool can allow cities to visualise the complex circular ecosystem to help to map and pinpoint connections.

### [URBACT \[Stakeholder platform / Guide\]](#)

This platform by URBACT explores how cities can connect and share expertise and knowledge to accelerate the development of the circular economy. The platform also developed a step-by-step toolkit to create meaningful engagement with stakeholders.

### [UrbanWINS Toolkit - Stakeholder engagement process \[Guide / Handbook\]](#)

As part of the UrbanWINS project, a guidebook has been created which provides an overview of stakeholder engagement processes with a focus on urban waste actors, and detailed explanations of participatory processes that can be followed.

Existing circular city networks:

### [ACR+ Circular Europe Network](#)

### [Circular Cities Declaration](#)

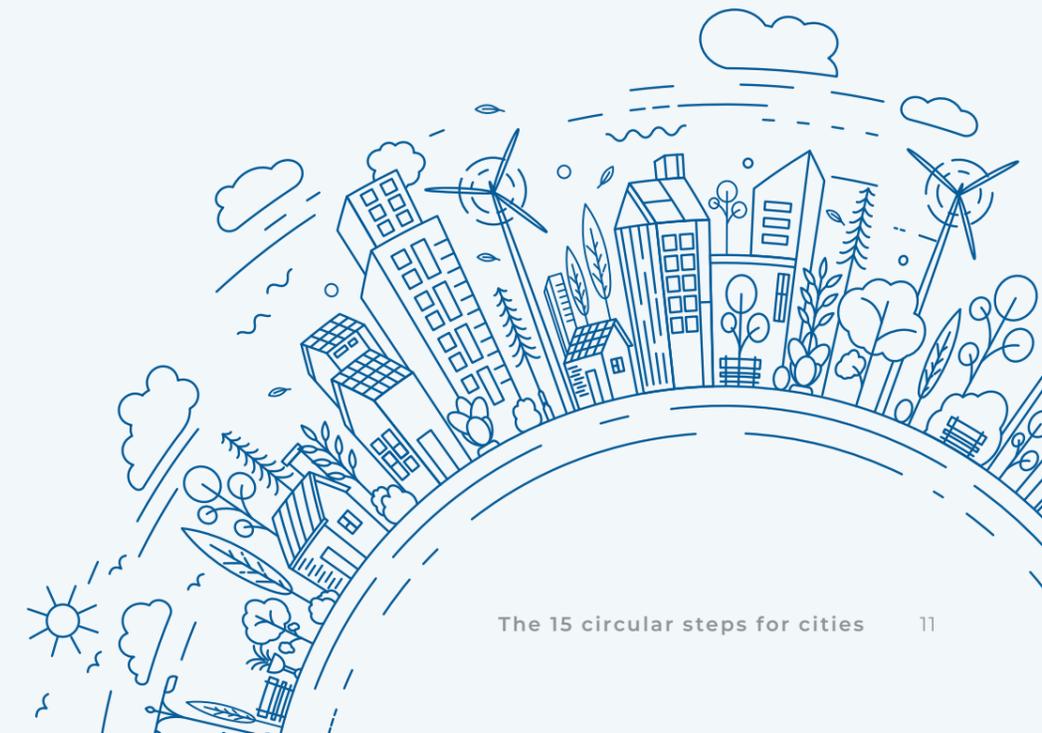
### [Circular Economy Club](#)

### [Circular Regions](#)

### [European Circular Economy Stakeholder Platform](#)

### [ICLEI Circulars](#)

Additional resources to connect and facilitate cooperation among circular stakeholders can be found [here](#).



## STEP 2

### Characterise and analyse local context and resource flows, and identify idle assets

The circular economy can be approached from many angles, making it difficult to know how and where to start. A solid base of information can guide stakeholders in cities to make informed decisions and prioritise actions that have the largest impact. For this reason, developing a good understanding of the local urban context is key to starting the circular transition in cities, as it can help to clarify the problems in the linear system and identify opportunities for circular change.

By analysing their economic, social, and environmental profile, cities can target the sectors with highest potential for circular action, from increased product and asset use to waste minimisation. An urban metabolism study can help to map all resource flows and identify opportunities to increase resource efficiency and close material loops. Some cities have already started to employ resource brokers to help companies identify wastage and possibilities to increase circularity in local value loops, including the repurposing of underutilised buildings and other idle assets.

To move from a linear to circular economy, cities can gain a deeper understanding of the local context via the following actions:

#### Compare relevant economic sectors in terms of impacts and circular potential

Sectoral data on employment, economic value, environmental footprint, resource consumption and waste generation, among others, can be used to compare different economic sectors in a city and identify those most worthwhile to target in a circular economy strategy.

#### Identify and map existing circular initiatives by the public sector

Mapping ongoing or planned circular initiatives and projects can help to connect stakeholders from various municipal departments around a common topic and ambition, helping to break down traditional silos. It can also help to identify municipal activities and services where there is a need to initiate circular action.

#### Identify and map existing circular initiatives by the private sector

Assessing the landscape of local circular business and citizen initiatives in the city provides important insights on which sectors are most active in the transition, what kind of approaches are most used, and where momentum and innovation might be leveraged for further scaling. It may also identify sectors with circular potential where there is room or need to further support the circular transition.

#### Identify and map idle public assets

Knowledge of the availability and ownership of unused or under-utilised public assets (e.g. land, buildings, transport infrastructure, etc.) allows for these assets to be matched to needs and potential new uses, with a view to extend their use and life in a circular manner.

#### Investigate and review existing Material Flow Analyses (MFAs) for the city and similar cities

Mapping the material, waste, and residue flows that form part of the urban metabolism of a city through MFAs helps to identify inefficiencies and wastage, and circular opportunities to address them. Additionally, MFAs of primary sectors or themes provide an easy-to-understand visualisation that allows diverse stakeholders to recognise their roles in making the city more circular. While planning the study, it can be useful to look at those of similar cities to understand how they use resources.

## USEFUL RESOURCES

#### [Circle Economy - Circular Jobs Monitor \[Tool\]](#)

This online tool gathers and displays data on the number and distribution of jobs that are part of the circular economy around the world. The tool highlights the types and quantities of circular jobs within a particular city, and provides policymakers, economists, and labour organisations with insights into the relationship between circular economy activities and the labour market across economic sectors.

#### [Circle Economy - City Scan Tool \[Tool\]](#)

The *Circle City Scan Tool* enables local governments to discover and prioritise circular solutions for their city or region, based on socioeconomic and material data, and relevant circular case studies. The tool builds on Circle Economy's expertise helping cities and regions develop circular economy action plans.

#### [Ellen MacArthur Foundation - Circular city self-assessment \[Tool\]](#)

This self-assessment tool supports cities to understand and assess their progress in the transition towards a more circular food system. The questionnaire can help cities to understand which policy instruments are available and have been adopted across a range of opportunities for a circular food system.

#### [Metabolism of Cities - Data Hub & Library \[Database\]](#)

This website provides an open-source global database of resource stock and flows data, publications and analyses pertaining to urban metabolism. It allows cities and practitioners to explore whether analyses have been previously conducted for a given city, as well as use the data to examine whether there are any patterns and trends in urban resource use, waste generation and pollution across the globe, and compare cities for which data is available.

#### [UrbanWINS Toolkit - Urban metabolism approaches \[Tool\]](#)

Part two of the UrbanWINS project resulted in the development of a guide to help cities understand the theories and approaches to carry out an urban metabolism analysis. The guide highlights various tools for its implementation, as well as presents various sectoral and thematic case studies that can be used as inspiration across the life cycle of waste policies.

*Additional resources to characterise and analyse local context and resource flows, and identify idle assets can be found [here](#).*

## STEP 3

Collect good circular examples and learn from the experience of other cities

The circular economy is a relatively new concept for many local governments, and it can be difficult to envisage what actions are relevant and applicable in the context of a city. Case studies and best practices from other cities can provide inspiration on how and where to act and can catalyse replication and adaptation. Making good practices and success stories accessible and disseminating know-how is critical to inspiring action both inside the city and between cities.

To learn and capitalise from the experience of other cities, a city should focus on the following actions:

### Gain inspiration from circular city case studies and achievements

Cities can learn from other cities that have progressed further in their circular transition to gain ideas and inspiration, and to avoid mistakes made by others.

### Reach out to inspiring circular project owners and initiatives

To gain inspiration, local governments can reach out to those in the public or private sector who have implemented inspiring circular projects and initiatives. In some cases, these individuals or groups may be located elsewhere in the country or abroad, but still be willing to share their expertise and insights.

### Join voluntary circular city agreements and support networks

To demonstrate an intention to transition toward circularity, draw attention to the topic and learn from others, it can be useful to join circular city initiatives and support networks like the Circular Cities Declaration.

## USEFUL RESOURCES

### [Circle Economy - Knowledge Hub on Circular Cities \[Case study collection\]](#)

Circle Economy's *Knowledge Hub* provides the world's largest collection of circular economy case studies. The *Knowledge Hub* is an online collaborative library of circular economy case studies that are relevant for cities, providing frameworks and definitions of circular strategies and policy instruments. In particular, the 'Cities collection' section of the *Knowledge Hub* provides a curated selection of the best city-related circular economy case studies from around the world.

### [Circular Cities Declaration \[Stakeholder platform\]](#)

The *Circular Cities Declaration* is a voluntary agreement that outlines the commitment of European cities to transitioning towards a more circular economy. The commitment document outlines the commitment to use the levers at the disposal of local governments to transition from a linear to a circular economy.

### [EIB - Circular City Funding Guide Case Studies \[Case study collection\]](#)

As part of the *Circular City Funding Guide*, EIB has compiled a collection of best practices in relation to cities that are supporting the circular economy transition throughout Europe. The case studies summarise the valuable lessons learned to support replication as well as highlight additional information such as how particular projects were funded.

### [European Circular Economy Stakeholder Platform - 'Good Practice' and 'Exchange' sections \[Case study collection\]](#)

This section includes relevant practices, innovative processes and 'learning from experience' examples. All information is provided by the stakeholders themselves who remain responsible for accuracy and veracity of the content.

Other circular economy case study collections include:

### [Ellen MacArthur Foundation - Circular cities examples and case studies](#)

### [Circular Economy Club - Circular Economy Map](#)

### [Collectors - Database](#)

### [C40 Cities, EIT Climate-KIC - Municipality-led circular economy case studies](#)

Additional resources to learn and capitalise from the experience of other cities can be found [here](#).



## STEP 4

### Conceptualise circular options for priority sectors and municipal services and assets

The broad applicability of the circular economy across a variety of urban sectors and systems, has undoubtedly supported the growing recognition of the concept. However, at the same time, this can be challenging to understand where to dedicate effort. It is important to know where to start and what to prioritise for greatest impact. Successful circular cities usually identify a few target sectors that are important in their socio-economic context and have a high potential for improved resource efficiency and closing local material and value loops. Commonly targeted themes are construction, food and beverages, trade, electric and electronic equipment, and textiles.

To conceptualise circular options for priority sectors and municipal services and assets, a city should focus on the following actions:

#### Identify circular opportunities in priority sectors

Work with and consult stakeholders of relevance to the sector (e.g. businesses, sector associations, non-profit organisations, academics, etc.) to identify and shortlist the circular opportunities that are most relevant and impactful in the local context

#### Identify circular opportunities in municipal services

Work with city representatives and private sector municipal service providers to identify how city assets and services can be offered and delivered in more circular ways.

#### Identify how planned municipal projects could be realigned to seize circular opportunities

Consider what projects, investments and programmes the city has planned in the short, medium, and long term, and investigate options for enhancing their circularity so that such principles can be designed in as early as possible.

## USEFUL RESOURCES

### [Circle Economy - City Scan Tool \[Tool\]](#)

The *Circle City Scan Tool* enables local governments to discover and prioritise circular solutions for their city or region, based on socioeconomic and material data, and relevant circular case studies. The tool builds on Circle Economy's expertise helping cities and regions develop circular economy action plans.

### [Ellen MacArthur Foundation - Circular Economy in Cities \[Framework / Factsheet\]](#)

This online resource created by the Ellen MacArthur Foundation provides valuable information and resources for cities that are looking to understand how they might transition towards a more circular economy. The resources include information related to a vision of what a circular city might look like, factsheets highlight the potential of a more circular economy across three urban systems (buildings, mobility, and products), as well as policy levers that highlight what instruments are at the disposal of cities.

### [ICLEI - Circular Cities Action Framework \[Framework\]](#)

Developed in collaboration between ICLEI, the Ellen MacArthur Foundation, Circle Economy and Metabolic, the *Circular City Actions Framework* provides urban changemakers with five complementary strategies they can use to start working towards a more circular system. The framework is action-based to provide users with concrete strategic directions and showcase the desired outcomes of each strategy.

### [Urban Agenda for the EU - Roadmap: Circular Resource Efficiency Management plan \[Guide\]](#)

The guide offers cities and urban areas a structured, step-by-step approach to develop a substantiated plan of action that improves resource efficiency and drives the transition to a circular economy.

*Additional resources to conceptualise circular options for priority sectors and municipal services and assets can be found [here](#).*



## STEP 5

### Craft a circular vision and strategy with clear goals and targets

Establishing a clear circular vision for the city serves as a guiding light for further strategic planning and implementation. It is also an important step in the development of a circular strategy at city level. Such a strategy should identify clear circular economy objectives and targets, circular opportunities for different municipal activities and services, as well as for key economic sectors in the city. The strategy should also identify associated actions and stakeholders that have a role in translating those opportunities into practical actions, clearly allocating tasks and responsibilities to each of them.

Implementation of the circular strategy will require the contribution of the whole community, including public and private companies, citizens, research and teaching institutions, media, and civil society. For this reason, defining a circular vision and preparing a circular strategy for the city should be done in a participatory manner, ensuring involvement and buy-in from all relevant stakeholders so that the city can build awareness, align diverse groups, and foster a culture of collaboration.

To craft a circular vision and strategy, a city should focus on the following actions:

#### Co-develop a vision for a circular city together with local stakeholders

Define a clear and compelling vision for a circular city that outlines the circular future that the city would like to attain, involving key stakeholders to ensure that multiple perspectives are accounted for.

#### Describe the linear baseline and related negative impacts

Using a Material Flow Analysis, describe the current linear situation and use this as the basis for setting circular goals and targets. The baseline description will also facilitate the monitoring of progress.

#### Co-develop circular goals and targets

Goals and targets should be set with a view to achieve the circular vision, and should focus on key sectors and activities, ideally including clear timelines for achievement. This will ensure that all actions remain aligned with and support the guiding vision. It will also facilitate tracking progress and impact over time.

#### Select measures required to meet the agreed goals and targets

Start by listing possible measures in different sectors and activities and select those that are most impactful and likely to succeed.

#### Agree on timelines, roles, and responsibilities for implementation

To translate measures into clear action plans, it is important that actors have clarity and agreement on what they need to achieve by when, so that their actions are well coordinated and time is not wasted.

#### Formulate the circular city strategy

The circular strategy is prepared based on summaries of the outputs of the previous five actions. It should be formulated in a clear and compelling manner, following consultations on key aspects and proposals with all relevant key stakeholders. Following this, the strategy should be officially adopted by the Municipal Council as the guide for the circular transition in the city.

## USEFUL RESOURCES

### [Climate-KIC, Veolia - Circular Cities: A practical approach to develop a city roadmap focusing on utilities \[Report - White Paper\]](#)

This document aims to contribute to developing good practices for achieving more and better dialogue between systemic actors to establish a collaborative multi-stakeholder arena in the utilities sector starting with a demand-led approach, working with city authorities, regional bodies, governments and industry leaders committed to transitioning to the circular economy.

### [ReFlow - Circular Team \[Tool\]](#)

As part of ReFlow's *Circular Governance Toolkit*, the *Circular Team* section provides a combination of tools that support the definition of circular teams and the overall decision-making path.

### [ReFlow - Circular Theory of Change \[Tool\]](#)

*Theory of Change* tool helps cities to define the logical concatenations and connectivity between long-term goals and impacts, outcomes, outputs, and activities. The tool has been developed as part of ReFlow's *Circular Governance Toolkit*.

### [Urban Agenda Partnership on Circular Economy - Circular City Governance \[Framework\]](#)

Developed under the Urban Agenda Partnership on Circular Economy, this resource provides an overview on the role of governance for cities in the transition towards a circular economy. The resource highlights the roles that cities can play to support the transition and provides a framework for cities to identify roles and responsibilities to support circularity.

Examples of existing Circular City Strategies:

#### [Amsterdam, Netherlands](#)

#### [Granada, Spain](#)

#### [Groningen, Netherlands](#)

#### [London, United Kingdom](#)

#### [Maribor, Spain](#)

#### [Paris, France](#)

#### [Turku, Finland](#)

Additional resources to craft a circular vision and strategy can be found [here](#).



## STEP 6

### Coach and educate to mobilise citizens, businesses and civil society

The circular economy offers opportunities to build awareness and foster a culture of collaboration across the society. While cities can lead the way, the transition should not happen solely in city administration offices, but also in homes, businesses, organisations of different kinds and educational institutions. To mobilise these creative ideas and entrepreneurial efforts, city administrations can actively promote the circular vision and strategy and build awareness and understanding about circular opportunities and benefits among their citizens and businesses so that they take part in the circular transition. Mobilising education and research institutions, media and civil society will facilitate and increase the efficiency of such efforts.

To educate and mobilise different stakeholders, a city should focus on the following actions:

#### **Educate citizens, businesses, and civil society to catalyse action**

Education and training of different stakeholders across society can help to build a mutually reinforcing ecosystem of local entities who can understand and explain the circular economy, identify related opportunities, and take appropriate action. Capacity building programmes can be developed to target specific groups (e.g. sectoral experts, architects, facility managers, non-profit organisations etc.).

#### **Leverage media, educational institutions and NGOs in awareness raising**

Sharing the city's vision and showcasing progress and innovations within the city are key to building a shared understanding of key concepts and encouraging bottom-up circular proposals and actions by different stakeholders. Mobilising media, educational institutions, and NGOs in this can help to increase the reach and impact.

#### **Host outreach and information events**

Establishing circular knowledge sharing platforms, holding awareness raising events, launching community networks and marketing campaigns are effective ways to build awareness, encourage participation and initiate action.

## USEFUL RESOURCES

#### [🔗 Ellen MacArthur Foundation - Education and learning \[Resource collection\]](#)

To support the awareness raising and understanding of a circular economy across a range of audiences, the Ellen MacArthur Foundation has created a resource collection that offers, for example, circular economy courses, resources for teaching the circular economy and provides inspiration from others via a learning community.

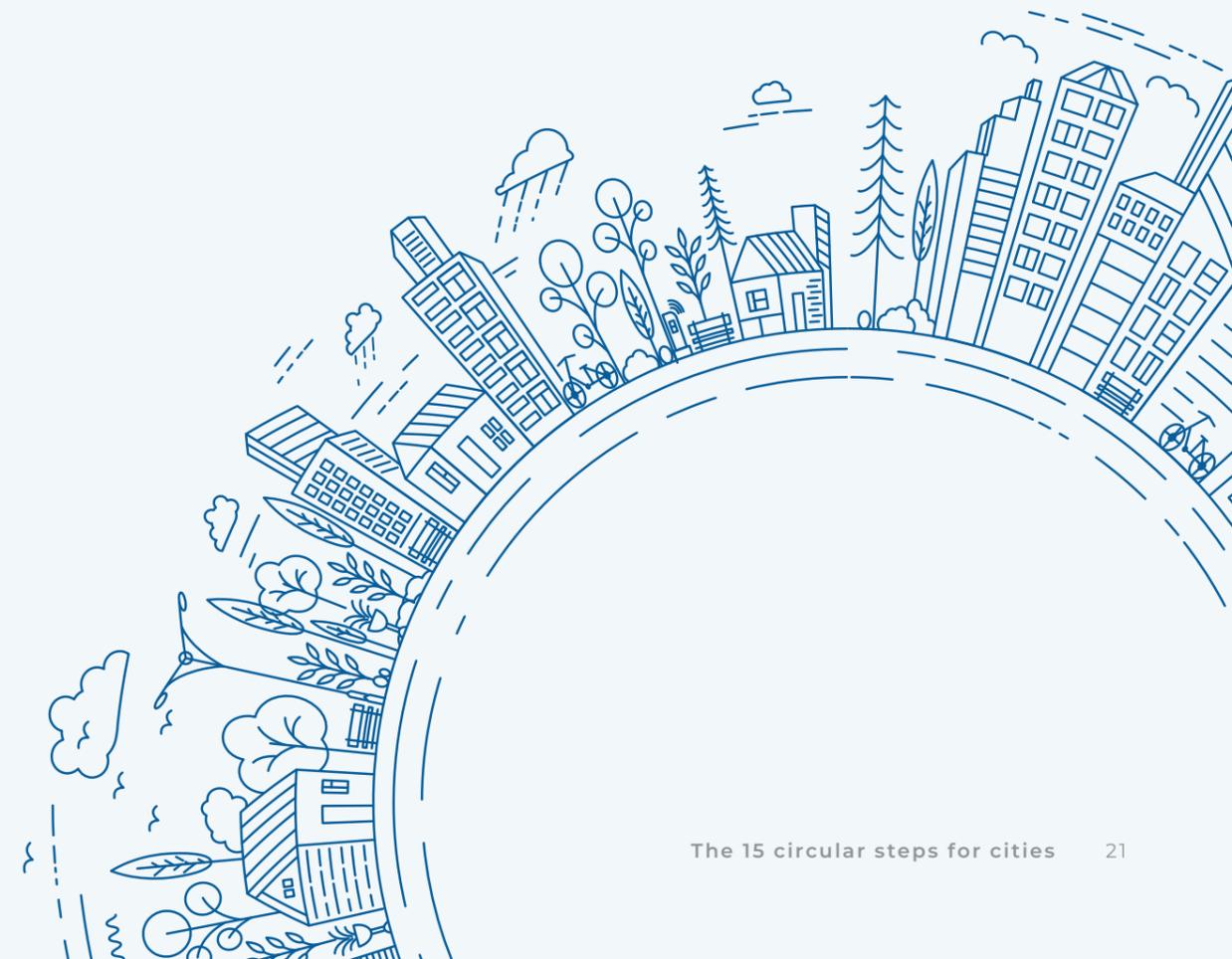
#### [🔗 The Circular Classroom \[Toolkit\]](#)

The *Circular Classroom* is an interactive educational toolkit for school educators and students to integrate circular thinking into the classroom. This tool can be used by cities to support the integration of the circular economy in school programmes and education initiatives.

#### [🔗 URBACT - The URBACT II Local \[Guide / Handbook\]](#)

This guide provides guidelines and tools that have proved useful in bringing together city stakeholders, and facilitating collaboration in the analysis of urban challenges and the co-creation of solutions—many of which are relevant for the circular economy transition.

*Additional resources to educate and mobilise different stakeholders can be found [here](#).*



## STEP 7

### Create an enabling environment for circular businesses and citizens

The circular economy transition in cities will rely on all relevant stakeholders to actively participate. City governments can use different instruments to mobilise, facilitate and incentivise such participation.

Regulatory “sticks”, such as municipal regulations and permits, and incentive “carrots”, such as taxes and subsidies, can be used as instruments to drive circular change. For instance, charging the full cost, including externalities, for waste management and other environmental services can support waste minimisation efforts. Ideally, this should include a differentiated fee structure that incentivises reduction, reuse, and recycling over disposal. Other examples include providing or subsidising land for industry clusters to promote industrial symbiosis and introducing circular requirements in licensing and permitting. Policy interventions can also apply multiple instruments to achieve desired outcomes in a more efficient and effective way.

To create an enabling environment for circular businesses and citizens, a city should focus on the following actions:

#### Revise / create supportive local legislation and regulations

Change the rules of the systems to encourage circular behaviour and enforce critical rules to drive more difficult changes. This can include establishing environmental and resource use standards, restricting permits to wasteful businesses, and implementing bans on linear products or practices.

#### Use economic instruments to encourage circular behaviour

Send market signals and provide support to businesses, citizens, and other organisations to promote certain activities. This can include direct financial support in the form of grant funding and incubator programmes, as well as public-private partnerships and fiscal instruments (e.g. tariffs, fines, tax breaks, subsidies, etc.).

## USEFUL RESOURCES

### [Ellen MacArthur Foundation - Policy levers \[Framework\]](#)

This document provides short, practical examples of the various policy measures city governments can use to bring about the circular economy transitions (over 100 cases from more than 70 cities around the world).

### [European Bank for Reconstruction and Development - Effective Policy Instruments for Green Cities \[Tool\]](#)

This interactive tool allows for cities to explore in detail the various policy instruments that are at their disposal to create an enabling environment to transition towards a more circular and green future. The tool explores various themes, including governance, finance and waste.

### [OECD - Getting the governance of the circular economy right: Checklist for Action and Scoreboard \[Tool\]](#)

The tool aims to support decision-makers in promoting, facilitating and enabling the transition to the circular economy. The Checklist is accompanied by the OECD *Scoreboard on the Governance of the Circular Economy*, a tool for cities and regions to self-assess the existence and functioning of enabling conditions for circular economy policies, initiatives, strategies and programmes.

### [Urban Agenda Partnership on Circular Economy - Circular City Governance \[Framework\]](#)

This document investigates how cities can support circular models within their current governance. It is a web page that acts as a first guide for policy makers who want to explore circular city governance.

*Additional resources to create an enabling environment for circular businesses and citizens can be found [here](#).*



## STEP 8

### Champion and procure circular assets, products, and services

Public procurement amounts to approximately 15% of gross domestic product in the European Union. It is one of the most important levers with which cities can drive circular change. By applying circular principles and criteria in the procurement of assets, products and services, city administrations can contribute to building a local demand for more circular products and services, encouraging and allowing space for innovation, and, over time, spurring the growth of a circular economy-based business culture. Through public procurement, for instance, cities can integrate preferences for modular construction principles or for the purchase of used and/or reusable and refurbishable products, as well as ensuring that procured products or materials will be re-used and recycled after their end of life.

To lead the way through public procurement, a city should focus on the following actions:

#### Promote and establish an enabling environment for circular procurement

Set and communicate the level of ambition in terms of circular procurement, form an internal team and engage with local businesses to understand their needs and identify potential pilot projects.

#### Tender for circular assets, products & services

Engage internally to assess needs and opportunities for different types of projects. Then develop circular criteria for use in the tender documents and evaluation process.

#### Review supplier performance in terms of circularity

Measure performance against the established circular criteria to ensure that the supplier is meeting functional needs, and to improve future tenders.

## USEFUL RESOURCES

### [European Commission - Public procurement for a circular economy \[Guide / Handbook\]](#)

In order to support public purchasers to leverage support for a transition to a circular economy, this brochure contains a range of good practice case studies as well as guidance on integrating circular economy principles into procurement.

### [Gemeente Amsterdam & Metabolic - Roadmap Circular Land Tendering \[Guide / Handbook\]](#)

The roadmap is a guide to Circular (land tendering) procurement criteria. It contains an extensive analysis of what circular building actually is and describes methods for measuring the extent to which construction projects meet the quantitative and qualitative criteria of circular building.

### [Pianoo - Sustainable Public Procurement \[Guide / Handbook\]](#)

This site provides comprehensive information on sustainable public procurement (SPP), also called responsible and sustainable procurement (RSP). The information has been prepared specifically for public purchasers. The site contains a section explicitly on circular economy.

### [Sustainable Procurement Platform \[Resource collection\]](#)

This online resource collection provides a selection of tools and guidance for implementing various aspects of sustainable procurement. The resource collection covers guidelines for circular, environmental and socially sustainable procurement, as well as tools to help cities with more practical aspects of the tender process.

*Additional resources to support the procurement of circular assets, products and services can be found [here](#).*



## STEP 9

### Cultivate and support circular businesses

City administrations can step beyond their usual roles and support local businesses to shift to circular business models, encouraging them to engage in other actions that contribute toward a circular economy. Collaboration and partnerships can be fostered within and across value chains to contribute toward the city's circular goals, but this often requires external intervention. Forming new partnerships, joining networks, and facilitating the development of new business models, tools and technologies can help businesses overcome challenges and barriers, and seize opportunities to scale up circularity, while attracting new investments and creating new jobs.

To cultivate and support circular business models, a city should focus on the following actions:

#### Identify opportunities for ICT tools to support the circular transition

ICT has an important role to play in establishing new connections, supporting alternative business models, and gathering and sharing data for better decision making and resource efficiency. Practical examples include waste or material exchanges that help to close loops, sharing platforms, systems for product tracking, and systems for registering components and materials in buildings to facilitate demolition and recycling.

#### Support industrial symbiosis

Local governments can use land and zoning laws to establish hubs for industrial symbiosis (e.g. eco-industrial parks), and create favourable conditions to attract businesses that can contribute to the closing of local value and material loops.

#### Connect stakeholders via matchmaking platforms and co-location spaces

By providing physical and virtual places for products and resources to be exchanged and traded, and for innovative new businesses to establish themselves, cities support the creation of a thriving ecosystem of circular economy entities.

## USEFUL RESOURCES

#### [Circle Economy - The role of municipal policy in the circular economy, investment, jobs and social capital in circular cities \[Report - White Paper\]](#)

This report explores the association between municipalities pursuing circular economy policy and investments in circular business that create jobs. Additionally, it takes a closer look at how businesses perceive this municipal support for the circular economy.

#### [Chambers for a circular economy - Actions to support SMEs' transition to a circular economy \[Report - Lessons Learned and Recommendations\]](#)

This document aims to offer a clear overview of the wide range of initiatives led or co-managed by Chambers in the field of the Circular Economy, with the intention not only to inform and share innovative actions, but also to spur and motivate synergies, triggering collaborations and the creation of new business models. The aim of each and every of these projects is to enable businesses to evolve from a linear to a circular mode of production and consumption.

#### [Copper 8 - Circular Revenue Models: required policy changes for the transition to a circular economy \[Report - White Paper\]](#)

The paper provides insight into four key barriers commonly faced by the business community in the transition to a circular economy, providing a real-life business case as an example for each. It also includes a guideline for policy makers on how to address these barriers

#### [ReFlow - Matrix of Circular Collaboration \[Tool / Approach\]](#)

The *Matrix of Circular Collaboration* tool can help to facilitate coordination, matchmaking and collaboration across various circular projects and initiatives within a city. The tool has been developed as part of the ReFlow project and is based on the Public Engagement Canvas elaborated by the University of the Arts London - Central Saint Martins within the T-Factor H2020 Project.

*Additional resources to cultivate and support circular business models can be found [here](#).*



## STEP 10

### Catalyse circular innovations and support their mainstreaming

The circular economy requires innovation on multiple levels to change the linear status quo, and cities can play an important role in supporting this. Innovation is often risky but can be supported by creating an enabling environment in which risk is well allocated and failure is accepted as part of the learning process. Business actors, in particular SMEs, should be encouraged to innovate in design and production, in finding new ways in which to access, use, and reuse materials, and in using new circular business models.

City governments can be the launching customers for new innovative circular products, services, or business models. Cities can also catalyse innovation by bringing together key stakeholders of the sustainable innovation ecosystem from both the private and public sectors as well as academia and NGOs and supporting such actors in the co-development of solutions or through financing. Innovation can also be encouraged by relaxing regulatory and permitting frameworks and requirements and creating suitable spaces for circular innovation, for example, in the form of incubators.

To spur circular innovation, a city should focus on the following actions:

#### Establish or support circular living labs

These experimental spaces allow entrepreneurs to develop solutions to specific circular challenges and test new circular products or business models.

#### Establish or support circular impact hubs and start-up incubators

Impact hubs and incubators focusing on circular themes can encourage entrepreneurs, businesses, and organisations to engage in solving city challenges in a circular manner.

#### Establish circular challenge funds

Challenge funds with invitations to compete for available grant funding can incentivise and support innovators by reducing their financial risks and can accelerate innovation in target areas by supporting promising new circular solutions.

## USEFUL RESOURCES

### [City of Amsterdam - Startup in Residence Toolkit \[Toolkit\]](#)

Following the success of the City of Amsterdam's *Startup in Residence* programme -whereby the City provides support for local entrepreneurs and startups that are tackling a key challenge defined by the City-, the initiative has developed a toolkit to support replication of the approach. Such an approach could be focused around the circular economy and support local innovation.

### [Ellen MacArthur Foundation - Innovation Deal for a circular economy \[Report - White Paper\]](#)

Innovators from the automotive industry, Dutch and French public authorities, and the European Commission have collaborated to identify regulatory barriers to reusing EV batteries as energy storage devices and unlock solutions. The report summarises the key lessons learnt.

### [SCREEN - Policy Lab for Circular Economy \[Platform\]](#)

The *Policy Lab for a Europe* made by Circular Regions is a think tank open to all those regional stakeholders willing to co-create and implement policies enabling EU industry, SMEs and citizens to adopt a circular sustainable approach. It works through this free platform where *European Regions working with Circular Economy* projects can collaborate, explore possible scenarios and co-design solutions for better policies.

### [UNaLab - Living Lab Handbook For Urban Living Labs Developing Nature-Based Solutions \[Guide / Handbook\]](#)

This handbook developed by UNaLab provides detailed step-by-step guidance to develop urban living labs, covering key aspects such as community engagement, setting-up and running the lab, as well as common pitfalls.

*Additional resources to catalyse circular innovations and support their mainstreaming can be found [here](#).*



## STEP 11

### Close loops by connecting generators and potential users of waste/residues/water/heat etc.

Closing material cycles is one of the central themes of the circular economy and should be at the core of each city's journey towards circularity. A Material Flow Analysis (MFA) study, prepared as a basis for developing a circular city strategy, shows the movement of local materials, residues and waste through the city, and can help to identify points with the greatest opportunity to close material and value loops. However, intervention is needed to connect generators of excess waste/residues/water/heat to those who have a demand for it, in the interest of supporting a more circular system.

Organisations that handle, exchange and broker materials may interact with companies to help them identify waste and residue streams, and wasted heat or water that could be used as feedstock or input for other economic activities. For instance, efforts can focus on increasing the collection and recycling of organic waste streams and by-products for use in bio-refineries, urban farms or in energy production, eventually returning nutrients to the soil.

To close loops by connecting generators and users of resources, a city should focus on the following actions:

#### Identify potential supply sources of waste/residues/water/heat

Map where value is currently being lost as potential sources of secondary resources. For example, identifying industries that generate large amounts of residues or by-products that are not recovered or energy-intensive factories that generate waste heat can help to identify opportunities to reduce virgin material or energy demand elsewhere in the city.

#### Identify potential users of waste/residues/water/heat

Map local demand (or potential demand) for secondary resources. For example, are there industries that could use production residues as feedstock or new developments that could make use of waste heat to heat homes and office buildings.

#### Facilitate connections between suppliers and users of waste/residues/water/heat

Digital tools can play a valuable role in connecting entities who are open to circular collaboration, but direct interventions may also be needed to convince entities of the benefits. In the construction sector, secondary material marketplaces can use digital technologies to share and trade under-utilised material resources by connecting consumers to the resources they require or wish to sell. Such marketplaces can also enable larger developers to provide surplus building materials to community projects and charities across the city.

## USEFUL RESOURCES

### [European Green Capital Network - Less waste, more value toolkit \[Toolkit\]](#)

This toolkit contains guidelines, tips, and case examples from leading cities in the circular economy in Europe. The toolkit and collection of resources can support cities to take the next steps towards a circular economy and improving waste prevention practices.

### [Foundation Operation - Pay-as-you-throw Toolkit \[Toolkit\]](#)

Developed under the Urban Agenda Partnership on Circular Economy, this toolkit provides detailed advice and support for cities to develop a pay-as-you-throw system for waste management.

### [SCREEN - How to identify cross-regional synergies \[Tool / Approach\]](#)

As part of the SCREEN [Synergic Circular Economy across European Regions] project, a tool and approach has been developed to support the identification of opportunities and synergies within the circular economy. The approach facilitates collecting relevant data, identifying interventions, and exploring synergies.

### [URBACT - Learning about implementation \[Toolkit\]](#)

To support cities in the implementation of projects, URBACT has developed a toolkit that provides step-by-step guides. Learning from a rich experience in helping to bring urban projects into reality, this toolkit focuses on the 'how', and spans preparing for implementation, developing a participatory approach, all the way to measuring performance.

*Additional resources to close loops by connecting generators and users of resources can be found [here](#).*



## STEP 12

Care for assets to extend their useful lives, and re-engage idle assets to increase their use

Extending the use and life of all products and assets for as long as possible is an important goal in the circular economy and should be prioritised above the reuse of components and recycling of materials. Cities can contribute to this by establishing reuse and repair centres for citizens, and helping companies to shift to circular sharing, leasing and product-as-a-service business models. They can also strive to repurpose or promote the sharing of under-used, idle and abandoned buildings and other assets, which they own and operate.

To extend the useful life of assets, a city should focus on the following actions:

### Assess circularity potential of idle public assets

Map under-used or idle buildings, infrastructure and capital equipment and assess the possibility to repurpose such assets to meet current needs.

### Identify opportunities to re-engage and link idle public assets to current needs

Repurpose assets based on local needs and opportunities with circular economy goals in mind.

### Identify and link relevant parties

Extending the useful life of assets may require establishing new connections across government departments that do not usually work together, and possibly also with non-government actors.

### Develop maintenance plans and budgets for assets to extend their life

Maintenance of assets is very important to extend their useful life, and needs to be carefully planned, budgeted for and executed in a timely manner to avoid asset deterioration.

## USEFUL RESOURCES

### [ICLEI - Adaptive Reuse of Cultural Heritage \[Framework / Report - Lessons Learned and Recommendations\]](#)

This synthesis report illustrates this governance approach explicitly in the context of how cultural heritage adaptive reuse projects can be co-created and sustained over time, and how they can engage and embed Heritage Communities in the process. It highlights 16 international case studies (ten in detail and six in summary), which provided the research foundation for the study.

### [One Planet - Policy Instruments on Product Lifetime Extension \[Report - White Paper\]](#)

The document aims at providing an overview of diverse policies and regulatory approaches for product lifetime extension across the globe.

### [Urban Agenda Partnership on Circular Economy - Sustainable and Circular re-use of space and buildings \[Guide / Handbook\]](#)

This handbook, developed under the Urban Agenda Partnership on Circular Economy, provides a useful resource to lay the foundations for an overall strategy to support the reuse of spaces and buildings. The handbook looks at a new model of urban re-use management.

### [Urban Agenda Partnership on Circular Economy - Urban Resource Centres \[Report - Lessons Learned and Recommendations\]](#)

This report developed under the Urban Agenda Partnership for Circular Economy provides a classification of local approaches to waste prevention, reuse, repair, and recycling, and compiles the lessons learned from experiences from cities around Europe. The report serves as inspiration and guidance for cities to develop urban resource centres.

*Additional resources to extend the useful life of assets and re-engage idle assets to increase their use can be found [here](#).*



## STEP 13

### Construct circular buildings and infrastructure and incentivise other developers to follow suit

Many cities have a steady influx of new citizens due to urbanisation and migration. Older cities often have an ageing building stock with buildings reaching the end of their useful lives or failing to meet energy efficiency requirements. Urbanisation combined with Europe's ageing building stock and the need for improved thermal efficiency is driving demand for new buildings. Where possible, this demand should be met first by reusing, refurbishing and, if necessary, repurposing idle or underused buildings, and then by planning, procuring and constructing circular buildings to fill the gap. Such buildings should be flexible and modular, designed for repurposing to extend their life and as material banks for disassembly instead of demolition to facilitate reuse of building components and recycling of materials.

As new areas are developed, new infrastructure will be required to connect them to services. Energy systems should be planned based on renewable energy sources and local generation to the extent possible. Mobility systems should be planned with a view to increasing efficiency, reducing congestion, and reducing emissions. Wastewater and solid waste systems should allow for resource cascading, to derive as much value from resources as possible.

Applying circular criteria in public procurement and permitting is an important way to increase the level of circularity in the building and infrastructure stock in a city.

To support circular buildings and infrastructure, a city should focus on the following actions:

#### Renovate or construct government buildings in a circular manner

Where possible, renovation of good quality buildings should be prioritised. Alternatively, new buildings should be designed in a flexible and modular way to extend their useful life and adapt to changing needs. Reused components and recycled materials from older buildings should be used where feasible.

#### Renovate or construct public infrastructure in a circular manner

Infrastructure projects for energy, mobility and utilities can all include elements of circularity in their design

and construction. For example, crushed rubble from demolition sites can be used as a base for new roads and paved areas.

#### Incentivise circular behaviours by private developers

In addition to leading by example through their own procurement, cities can support the training of local architects, engineers, developers and builders in circular aspects of design and construction (e.g. design for modularity, design for adaptability, etc.).

## USEFUL RESOURCES

### [Circle Economy - A future-proof Built Environment \[Report - White Paper\]](#)

This report highlights real-life and practical examples on how to rethink the built environment, taking a systematic view on the sector to identify clear levers for circular change.

### [Circle Economy, Metabolic, Dutch Green Building Society, SGS Search - A Framework for Circular Buildings: Indicators for possible inclusion in BREEAM \[Framework\]](#)

To support the inclusion of circular economy criteria within building projects, a strategic framework has been developed in collaboration with key stakeholders in the Dutch circular construction sector. The report describes indicators that could be included in the sustainable certificate BREEAM-NL to better evaluate circular buildings.

### [Metabolic - Urban mining and circular construction \[Approach\]](#)

Metabolic works with cities to map their urban mining potentials and develop circular solutions for a future-proof built environment. Rotterdam, Amersfoort and the Utrecht region have already taken practical steps in this direction.

### [Urban Agenda Partnership on Circular Economy - Sustainable and Circular re-use of space and buildings \[Guide / Handbook\]](#)

This handbook, developed under the Urban Agenda Partnership on Circular Economy, provides a useful resource to lay the foundations for an overall strategy to support the reuse of spaces and buildings. The handbook looks at a new model of urban re-use management.

*Additional resources to support circular buildings and infrastructure can be found [here](#).*



## STEP 14

### Channel funding and financing to circular projects

Circular projects are often innovative and may have risk profiles that make them more challenging to finance. While access to finance has been an issue in the past, the situation is rapidly changing as governments, financial institutions and investors start to recognise the benefits of a circular economy. An increasing range of financial products and services is now available for circular projects in Europe, including public equity funds, bonds, private market funds and loans. At the same time, municipal governments and administrations can provide grants and other forms of financial support such as guarantees to circular entrepreneurs, thus reducing their needs for external capital in early stages and improving their risk profile to facilitate access to public and private investments.

To channel funding and financing to circular projects, a city should focus on the following actions:

#### Link or facilitate access to different types of funding and financing

City administrations can act as a link between relevant funders or financiers and different types of circular projects to improve the access to funding.

#### Support businesses in refining their business cases to improve bankability

In some cases, businesses may need support in improving their business case and in communicating it in a clear and convincing manner to increase the chances of securing financing. Cities can provide guidance and support on this and ensure that circular and other aspects are properly presented. Providing assistance in the development of projects may also be needed for larger, more complex projects.

#### Explore whether the city can directly support circular projects

In sectors of public interest, cities can play a significant role in funding and financing circular projects through different levels of involvement. This can range from cooperation with private companies in public-private partnerships, to spin-offs from municipal enterprises which support development of a circular economy ecosystem.

## USEFUL RESOURCES

### [European Commission - Accelerating the transition to the circular economy: Improving access to finance for circular economy projects \[Report - Lessons Learned and Recommendations\]](#)

This report produced by the European Commissions' Directorate-General for Research and Innovation provides insights and lessons learned in relation to improving the financing of circular economy projects.

### [European Investment Bank - Circular Cities Funding Guide \[Guide / Handbook\]](#)

The *Circular City Funding Guide* supports municipalities, businesses, and other urban actors in creating circular cities. The online resource provides guidance for both funders and fund-seekers, as well as general information and case studies about circular cities.

### [SCREEN - How to assess projects' circularity \[Tool / Approach\]](#)

The SCREEN [Synergic Circular Economy across European Regions] project has developed a tool and set of criteria in which to evaluate the circularity projects when compared to one another. This tool can support the incorporation of circular economy criteria in the access to funding opportunities.

### [URBACT - Resourcing \[Toolkit\]](#)

This toolkit developed by URBACT provides practical guidance and tools to support using public funds and financing initiatives. The toolkit provides tools and advice to secure funding to implement plans, as well as how to use public procurement in a strategic way.

Funding sources:

### [European Union - INTERREG](#)

Invests in innovative and sustainable solutions for Europe and is intended for governments, universities, businesses, development agencies, non-profit organisations, and NGOs.

### [European Commission - Horizon Europe](#)

Aims to increase Europe's competitiveness by stimulating science and innovation and challenge the business community and the academic world to jointly devise solutions for social issues that are relevant throughout Europe.

### [European Union - LIFE 2021-2027](#)

Subsidy program with the aim of supporting innovative projects that fit into European nature, environment and climate policy. The Environment sub-program focuses, among other things, on innovative projects related to circularity.

### [European Union - Eurostars](#)

Subsidy for international market-oriented R&D and focuses on innovative SMEs that are cooperating with partners in other countries. to encourage their faster development and growth by shortening the time-to-market for these new technologies and reducing the risks.

*Additional resources to channel funding and financing to circular projects can be found [here](#).*

## STEP 15

### Communicate on circular progress based on monitoring

To ensure that progress is being made toward a city's circular economy goals, as outlined in the circular economy strategy, indicators are useful for monitoring and reporting on achievements to date. Circular indicators and metrics can help circular stakeholders follow the progress and refocus their efforts on achieving the goals and targets set out in the city's strategy. Additionally, monitoring may point to the need to change or intensify efforts on particular fronts. Communicating about this progress can help to mobilise new circular stakeholders and encourage them to take action in line with the city's goals.

To improve communication on circular progress and projects, a city should focus on the following actions:

#### Gather and standardise data relating to the circular transition

Data that can be used to monitor progress in the circular transition may not be immediately available. New systems for collecting, compiling and disseminating data related to goals and targets in the circular strategy often need to be established. For example, data on the sources, types and relative quantities of wastes arriving at landfill are important in developing minimisation strategies.

#### Monitor progress on circular economy metrics

Progress in the circular transition can be monitored using defined key data. After compiling and analysing data, it should be presented in a way that can be easily disseminated and shared.

#### Communicate for continuous improvement and development

The progress made and impact achieved by the circular transition should be communicated both to relevant stakeholders and to the public to encourage further efforts and demonstrate positive momentum.

## USEFUL RESOURCES

#### [OECD - Inventory of circular economy indicators \[Framework\]](#)

The Inventory collects 474 indicators and draws from Chapter 5 of the OECD 2020 report: *The Circular Economy in Cities and Regions*. It is intended to be a dynamic tool that will be updated, following the progress cities, regions and national governments are making in measuring advancements towards the circular economy.

#### [URBACT - Measuring results \[Toolkit\]](#)

The URBACT initiative has produced a toolkit to support cities in measuring the results of projects, focusing on how to define objectives, and indicators, as well as how to monitor the implementation of a plan.

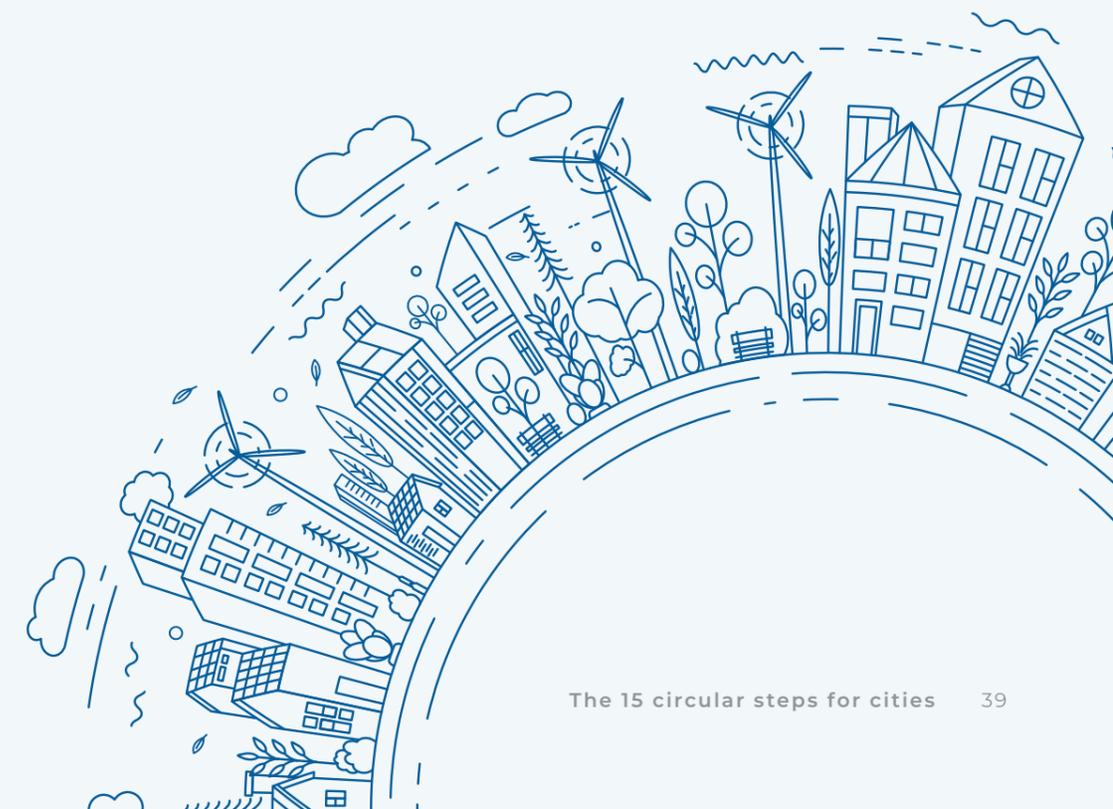
#### [URBACT - Sharing knowledge \[Toolkit\]](#)

This toolkit developed by URBACT provides practical guidance on how to capture the key lessons and reflect on the learnings of an initiative, as well as how to exchange ideas and knowledge with an audience.

#### [Urban Agenda Partnership on Circular Economy - Indicators for circular economy transition in cities. Issues and mapping paper \[Guide / Handbook\]](#)

A set of indicators are important to support the continued monitoring of the transition to, and performance of a more circular economy in cities. This paper produced under the UAPCE presents the consolidated set of circular economy indicators for cities. The paper also highlights the challenges, as highlighted by cities, academics, and networks.

Additional resources to communicate on circular progress and projects based on monitoring can be found [here](#).



## SUMMARY

The 15 circular steps for cities presented in the preceding sections are summarised below.

### PHASE 1 - PREPARE AND PLAN

#### 1. Connect and facilitate cooperation among circular stakeholders

- Map local circular stakeholders for possible inclusion in the task team
- Build capacity on circular economy principles and options for action
- Leverage / establish local platform(s) for connection and interaction

#### 2. Characterise and analyse local context and resource flows, and identify idle assets

- Compare relevant economic sectors in terms of circular potential and impacts
- Identify and map existing circular initiatives by the public sector
- Identify and map existing circular initiatives by the private sector
- Identify and map idle public assets
- Investigate and review Material Flow Analyses (MFAs) for the city and similar cities

#### 3. Collect good circular examples and learn from the experience of other cities

- Gain inspiration from circular city case studies and achievements
- Reach out to inspiring circular project owners and initiatives
- Join voluntary circular city agreements and support networks

#### 4. Conceptualise circular options for priority sectors and municipal services and assets

- Identify circular opportunities in priority sectors
- Identify circular opportunities in municipal services
- Identify how planned municipal projects could be realigned to seize circular opportunities

#### 5. Craft a circular vision and strategy with clear goals and targets

- Co-develop a vision for a circular city together with local stakeholders
- Describe the linear baseline and related negative impacts
- Co-develop goals and targets
- Select measures required to meet the agreed goals and targets
- Agree on timelines, roles and responsibilities for implementation
- Formulate the circular city strategy

### PHASE 2 - FACILITATE

#### 6. Coach and educate to mobilise citizens, businesses and civil society

- Educate citizens, businesses and civil society to catalyse action
- Leverage media, educational institutions and NGOs in awareness raising
- Host outreach and information events

#### 7. Create an enabling environment for circular businesses and citizens

- Revise / create supportive local legislation and regulations
- Use economic instruments to encourage circular behaviour

#### 8. Champion and procure circular assets, products and services

- Promote and establish an enabling environment for circular procurement
- Tender for circular assets, products & services
- Review supplier performance in terms of circularity

#### 9. Cultivate and support circular businesses

- Identify opportunities for ICT tools to support the circular transition
- Support industrial symbiosis
- Connect stakeholders via matchmaking platforms and co-location spaces

#### 10. Catalyse circular innovations and support their mainstreaming

- Establish or support circular living labs
- Establish or support circular impact hubs and start-up incubators
- Establish circular challenge funds

### PHASE 3 - ACT

#### 11. Close loops by connecting generators and potential users of waste/residues/water/heat etc.

- Identify potential supply sources of waste/residues/water/heat
- Identify potential users of waste/residues/water/heat
- Facilitate connections between suppliers and users of waste/residues/water/heat

#### 12. Care for assets to extend their useful lives, and re-engage idle assets to increase their use

- Assess circularity potential of idle public assets
- Identify opportunities to re-engage and link idle public assets
- Identify and link relevant parties
- Develop maintenance plans and budgets for assets to extend their life

#### 13. Construct circular buildings and infrastructure and incentivise other developers to follow suit

- Renovate or construct government buildings in a circular manner
- Renovate or construct public infrastructure in a circular manner
- Incentivise circular behaviours by private developers

#### 14. Channel funding and financing toward circular projects

- Provide or link circular projects to grant funding
- Support businesses in refining their business cases to improve bankability
- Explore whether the city can directly support circular projects

#### 15. Communicate on circular progress based on monitoring

- Gather and standardise data relating to the circular transition
- Monitor progress on circular economy metrics
- Communicate for continuous improvement and development

### 3. THE EIB SUPPORTS CITIES IN THEIR CIRCULAR TRANSITION

As the EU bank, the EIB provides lending on attractive terms to both public and private promoters, including for smaller and riskier circular projects. For cities, we offer **municipal framework loans**, which are multi-scheme credit lines that can finance a city's circular investment programme. We also offer **intermediated lending** through other banks, which can finance investments in the city itself, its utility companies and private sector municipal service providers. We can also finance **Urban Development Funds**, which can be purely private or blended with European Union or other public funds to invest in circular city projects, including through revolving funds. For projects promoting the commercialisation of circular economy innovation, the EIB has special instruments supported by the European Commission.

In addition to lending, the EIB provides financial and technical advisory to cities, in particular through the [European Investment Advisory Hub](#), Innovation Finance Advisory and JASPERS. Cities with circular interest and ambition are supported through The [Circular City Centre \(C3\)](#), and projects and promoters can benefit from the **Circular Economy Technical Assistance Facility (CETAF)**. More circular information and guidance can be found in the [EIB Circular Economy Guide](#).

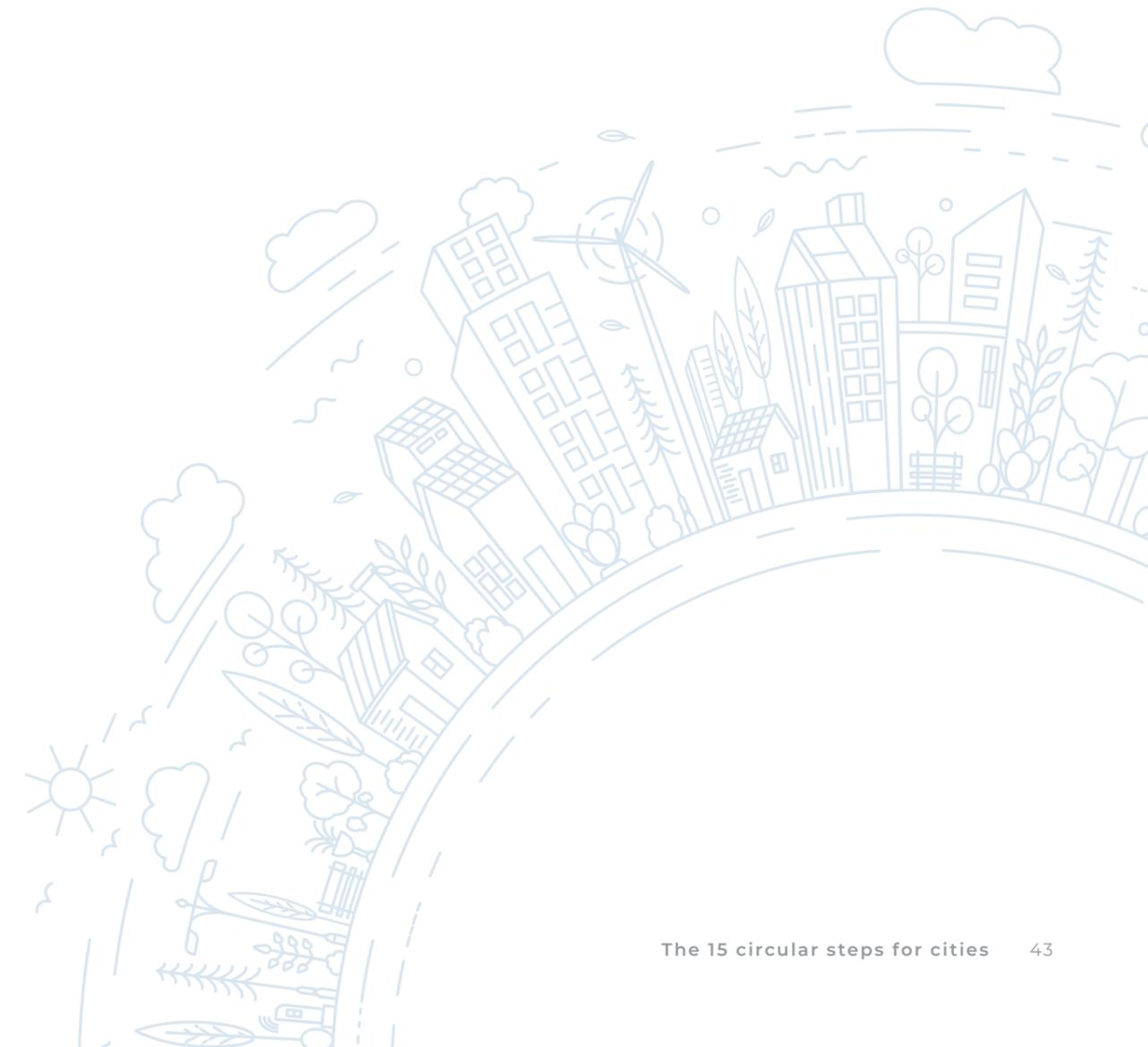
In the context of the Urban Agenda Partnership on Circular Economy, the EIB and the European Investment Advisory Hub launched a [Circular City Funding Guide](#), a web-based tool that provides guidance to circular fund-seekers and funders in cities.



EIB support to circular cities

### REFERENCES

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## THE 15 CIRCULAR STEPS FOR CITIES

