



Rijkswaterstaat & Alba Concepts

Circular Procurement in Europe: Handbook for local and regional governments

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Executive summary

Cities and local authorities have a pivotal role to play in the transition towards a circular economy. Public procurement is a powerful tool that local and regional governments can leverage to support this transition. In line with the EU Commission's Green Deal and Circular Action Plan 2020 and legislative proposals, such as the Fit for 55 package, that set the green and circular transition as a key priority for the EU, the CityLoops project has focused on circular economy solutions for bio-waste and construction and demolition waste, including soil. Seven European medium-sized cities – Høje-Taastrup and Roskilde (Denmark), Mikkeli (Finland), Apeldoorn (the Netherlands), Bodø (Norway), Porto (Portugal) and Seville (Spain) – have used a circular approach to public procurement to support their circular pilot projects, called demonstration actions. Starting in October 2019, the seven cities have embedded circular practices along the procurement process to support different demonstration actions and tested many tools and approaches, alongside specialised partners in this field. Based upon the learnings and outcomes of the four year CityLoops project, this handbook aims to inspire and guide procurement professionals, local and regional European public authorities of all sizes, policymakers – as well as private entities that want to know more about the current procurement practices – to use the purchasing power in their transition towards a circular economy.

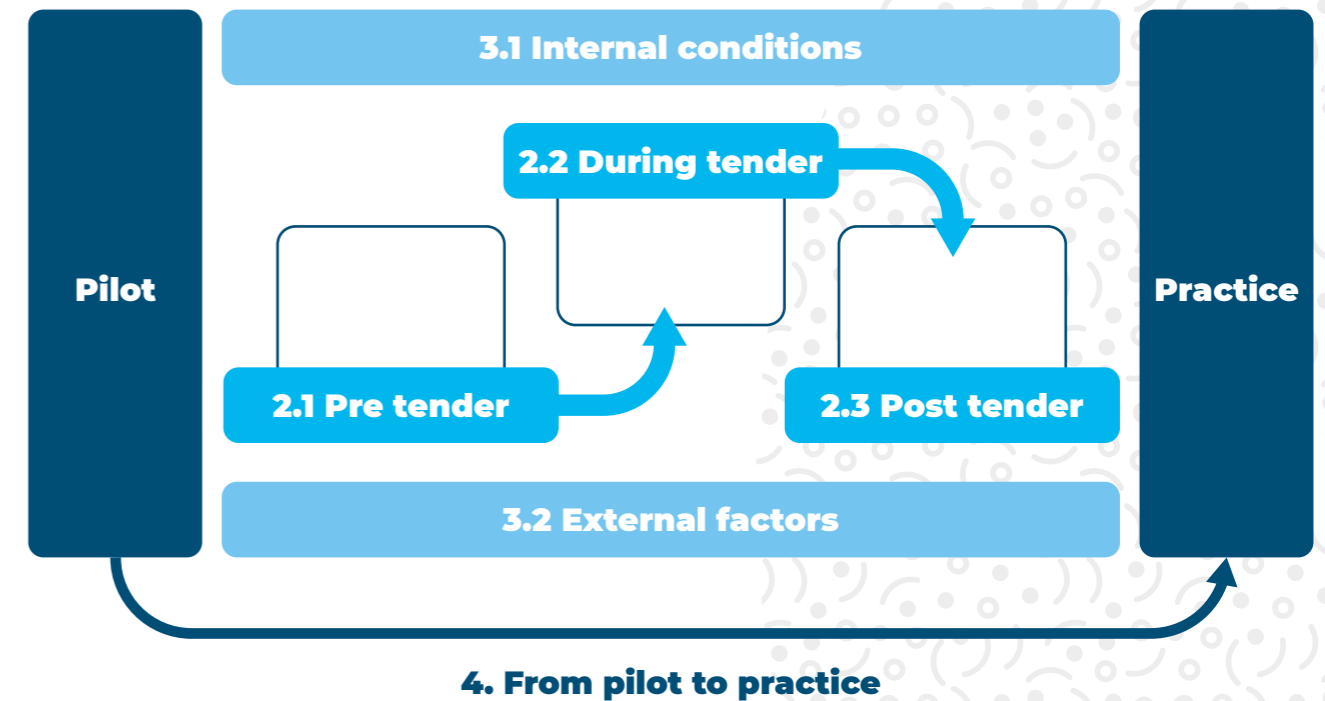
This handbook draws upon the demonstration actions to draw key takeaways on circular procurement practices. It provides tools to establish the necessary conditions for both internal and external factors, including stakeholder engagement and knowledge creation, to facilitate the effective implementation and success of a circular procurement project. Furthermore, it offers practical guidance for project implementation. This includes examples and tools for incorporating circular procurement practices during the pre-tender, tender, and post-tender activities. Finally, it outlines methods to ensure the scalability and integration of these activities as the new norm within your organisation.

This handbook follows the following structure. The first chapter highlights the necessity to close the loop in the bio-waste and construction and demolition waste (CDW) streams. It also introduces the concept of circular procurement and its importance in the transition to a circular economy. Then, it outlines how the seven CityLoops cities have used a more circular approach to procurement to support their demonstration projects. The second chapter provides insights and practical tools for successfully incorporating circular practices into procurement at different stages of a project: pre-tender, during tender, and post-tender. It also highlights tools and approaches that can be used in procurement to management of bio-waste and construction and demolition waste (CDW). The third chapter explores the interplay between internal and external conditions for circular procurement, highlighting the importance of aligning both spheres to drive sustainable transformations. The fourth chapter outlines the key takeaways and challenges that can arise when scaling up circular procurement practices. And the final chapter provides concluding remarks on how to integrate circular principles into the procurement of construction and demolition, and bio-waste management projects.

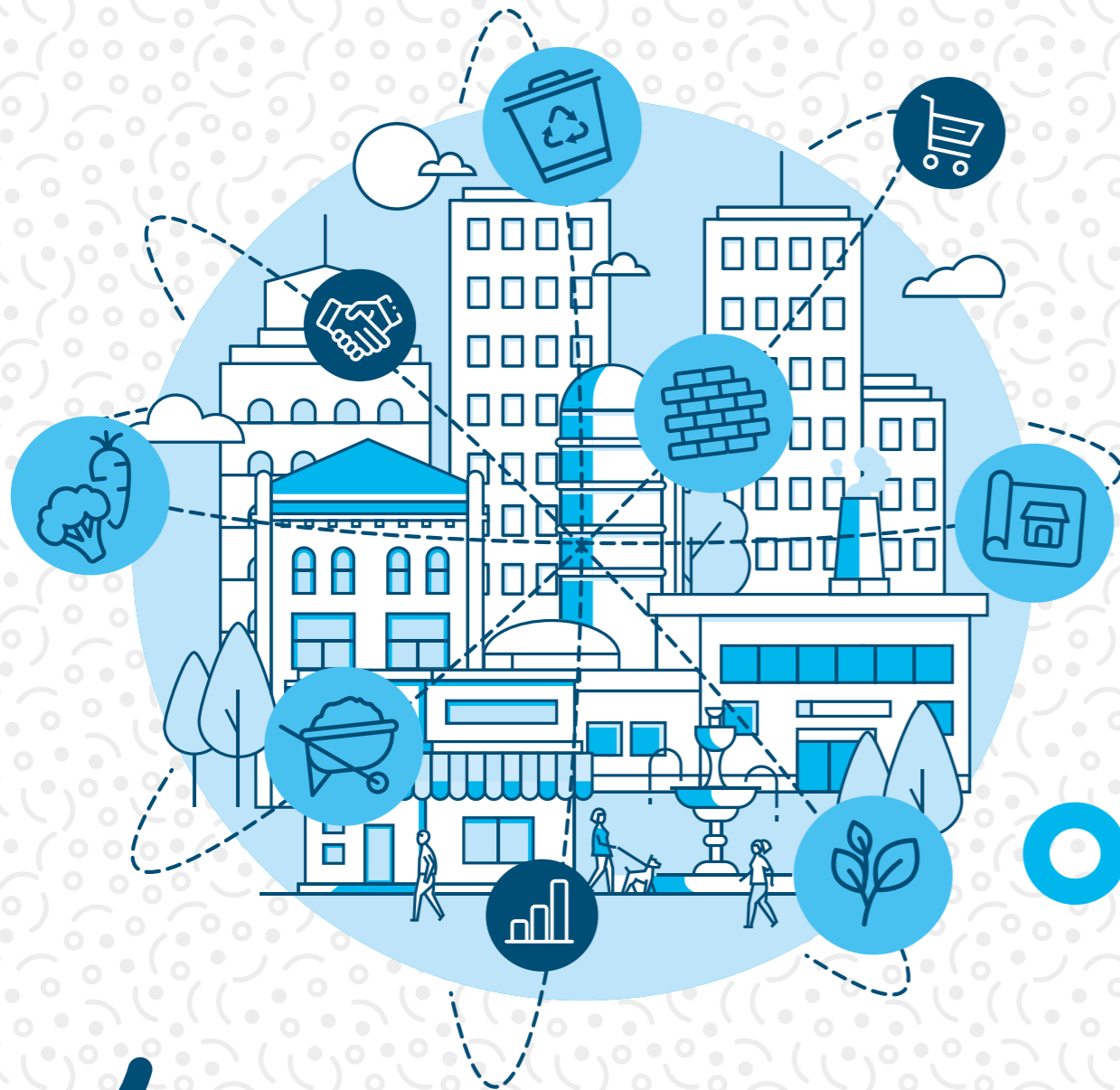


However, this handbook is tailored to provide a first level of information. Many tools, instruments and study cases have been developed all over the four years of CityLoops. In order to provide the most comprehensive and useful resources, we have gathered the instruments, tools, guidance and experiences from cities in some replication packages to delve deeper into specific topics. Those are mentioned throughout the document with this sign and listed at the end of the document. They can be viewed and downloaded from the [CityLoops website](#).

The diagram below explains the chapter structure of this handbook.



CITYLOOPS



A few words on CityLoops

Cities throughout Europe are increasingly recognising that the transition from a linear to a circular economy is crucial in the fight against climate change and biodiversity loss. In practice, this means that cities need to move away from the take-make-waste approach towards an economy based around closed material loops, where resource consumption is decoupled from economic growth. Aiming to address these challenges, CityLoops brought together seven European cities – Apeldoorn (The Netherlands), Bodø (Norway), Mikkeli (Finland), Porto (Portugal), Seville (Spain), and Høje-Taastrup and Roskilde (Denmark) to pilot a series of demonstration actions to “close the loop” in Construction and Demolition Waste (CDW) and biowaste, identified in the European Circular Economy Action Plan as two of the most important waste streams in Europe.

Over the past four years, these seven cities implemented a total of ten demonstration actions, testing over 30 new instruments and processes. These range from instruments for predicting future excavated construction and demolition waste and soil production, to awareness-raising campaigns, and from circularity decision making support tools, to simulation of impacts 3D visualisation tools and procurement guidelines for bio-waste products. The wide variety of these solutions reflect the different needs and contexts of the cities participating in the project. While Bodø was demolishing its old military airport to build a new part of the city in the cleared area, Porto was focusing on making its social economy and tourism sector more circular. And while Apeldoorn was experimenting with soil improver bokashi, Seville was implementing waste collection awareness campaigns for school children. As such, CityLoops has highlighted the great potential of circular approaches, showing that they can be applied effectively in many different industries and with many different objectives.

Apeldoorn, Bodø, Mikkeli, Porto, Seville, Høje-Taastrup and Roskilde have the ultimate aim to become circular cities, where no resource goes to waste. After four years of work in CityLoops, they are not there yet, but the demonstration actions implemented during the project have brought them closer to that goal. They contributed to the further integration of circular principals within municipal policy strategies, an increased use of circular public procurement to increase market demand for circular products and services, and a better understanding of the resources that flow through their city.

The CityLoops handbooks on circular construction, biowaste, and circular procurement aim to provide cities with a comprehensive overview of how the lessons learnt and main insights from the project can be most effectively applied in their own contexts. They feature practical examples outlining how cities implemented the tools they developed, why they made certain decisions, what they could have done differently, and how all this fits into the broader context of European circular strategies and policies. In doing so, these handbooks aim to bring the knowledge, experiences, tools and results of CityLoops to other cities in Europe and to contribute to the further implementation of the circular economy across the continent.

1. Circular Procurement: a strategic tool for a circular economy

A growing urgency

In recent years, there has been a growing urgency to transition from a linear economy to a circular one, especially for the bio-waste and construction and demolition waste (CDW) streams, the two largest waste streams in municipalities. In 2017, the EU-28 generated 86 million tonnes of bio-waste. And the decomposition of organic matter in landfills accounted for 3% of the EU's total emissions in 2019.¹ On the other hand, the construction sector accounts for roughly half of all material extraction, half of energy consumption, a third of water consumption and 40% of all greenhouse gas emissions. The waste deriving from construction and demolition activities – known as Construction and Demolition Waste (CDW) – consists of various materials used in construction (such as excavated soil, concrete, bricks, glass, wood, metals, gypsum, plastic, solvents, and hazardous substances) and represents the largest waste stream in the EU per volume.²



Minimising these two waste streams can yield many positive benefits. Reducing the extraction and use of raw materials, can relieve the pressure on finite resources while reducing dependency on landfilling and incineration. Moving away from landfilling and incineration can also help to improve public health and wellbeing through reduced pollution. Transitioning to a circular economy can reduce environmental damage, as well as nature and biodiversity loss. The transition to a circular economy represents an economic opportunity. The valorisation of bio-waste and the reuse of construction materials can support job creation and the development of new economic activities. It has been estimated that for 10,000 tonnes of resources that is recycled instead of incinerated, 36 additional jobs are created.³ The European Commission has estimated that the number of jobs in the EU linked to the circular economy grew by 5% between 2012 and 2018 to reach around 4 million.⁴

The EU Commission's Green Deal and Circular Action Plan 2020 and legislative proposals, such as the Fit for 55 package, have set Europe on a trajectory towards a circular economy. Policymakers at the EU, national, regional and local level all have a role to play in implementing these commitments. Cities and local authorities have a pivotal role to play in the transition towards a circular economy and have at their disposal a number of levers to reduce bio-waste and construction and demolition waste. And public procurement is a key policy lever.

¹ European Environment Agency, *Bio-waste in Europe — turning challenges into opportunities*, (2020), p.11.

² European Commission, *Guidelines for the waste audits before demolition and renovation works of buildings*, (2018)

³ Circle Economy, *Jobs & skills in the circular economy: state of play and future pathways* (2020)

⁴ European Commission, *A new Circular Economy Action Plan – For a cleaner and more competitive Europe*, (2020)

Why circular procurement matters?

Circular public procurement is a powerful tool that local and regional governments can use to support the transition towards a circular economy. With public procurement accounting for 14% of the EU's GDP, public procurers have an important role to play in shaping local circular economies.

By adopting circular procurement practices, cities can not only minimise waste and environmental impact, but also stimulate innovation, create economic opportunities, and contribute to the development of sustainable, resilient communities.

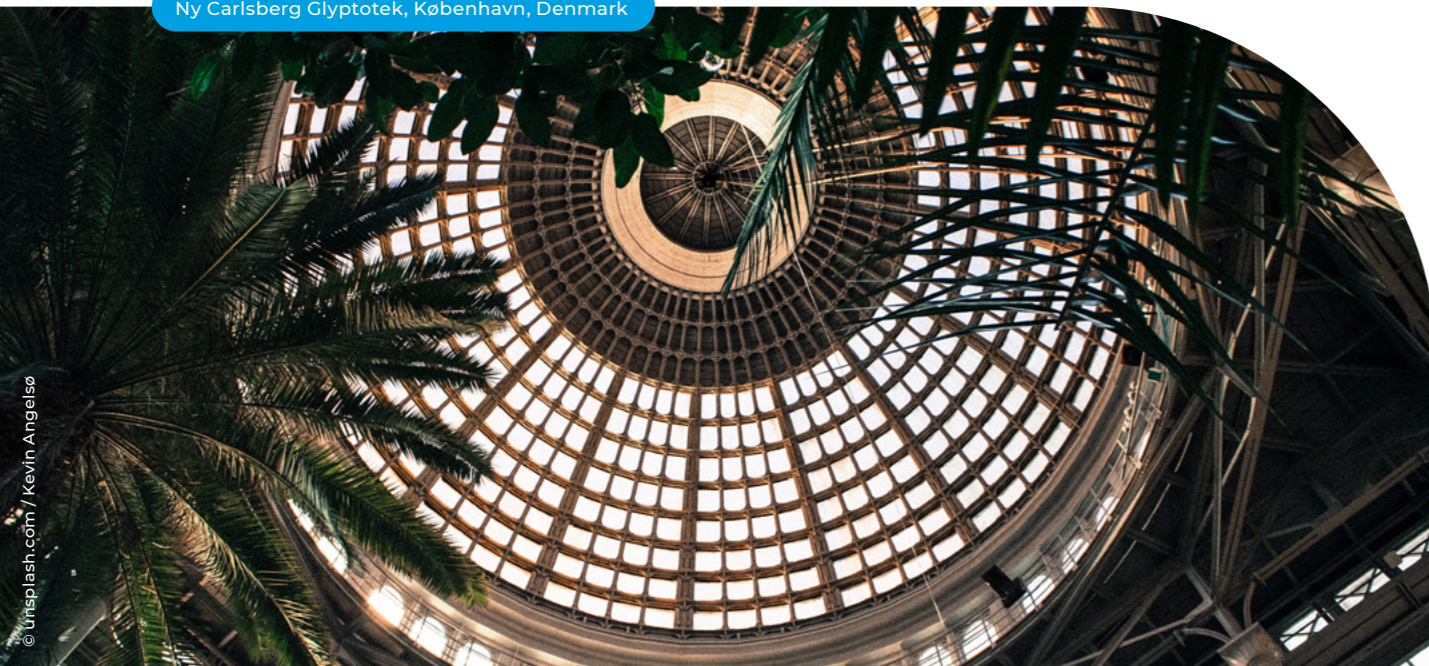
Circular procurement also recognises the interdependence between supply and demand. By creating demand through procurement for circular products and materials, cities encourage the market to invest in these novel solutions. It becomes feasible to establish comprehensive agreements regarding materials throughout the entire supply chain and product lifespan. This enables the procurement of environmentally friendly products with minimal environmental impact, while also incorporating specific metrics to facilitate material reuse beyond the initial life cycle.

What is circular procurement?

Circular procurement refers to a strategic approach to procurement that aims to support and accelerate the transition towards a circular economy. It involves a holistic integration of circular principles and considerations into the procurement process, encompassing the acquisition of goods, services, and works that are designed for durability, reusability, recyclability, and resource efficiency. The goal of circular procurement is to maximise the value and lifespan of products, minimise waste generation, and promote the sustainable use of resources.

In a circular procurement approach, the focus extends beyond the initial purchase cost and considers the entire life cycle of products. This includes aspects such as design, production, use, maintenance, and end-of-life management. The aim is to select suppliers and products that align with circular economy principles, thereby reducing environmental impacts, optimising resource utilisation, and fostering innovation in product design and supply chains. Circular procurement promotes the principles of reducing, repairing, and reusing products, and replacing and recycling materials throughout the procurement process. For the biological loop, it helps to reduce food waste, promotes the collection and valorisation of bio-waste, and the production of bio-waste products such as compost and biogas.

Ny Carlsberg Glyptotek, København, Denmark

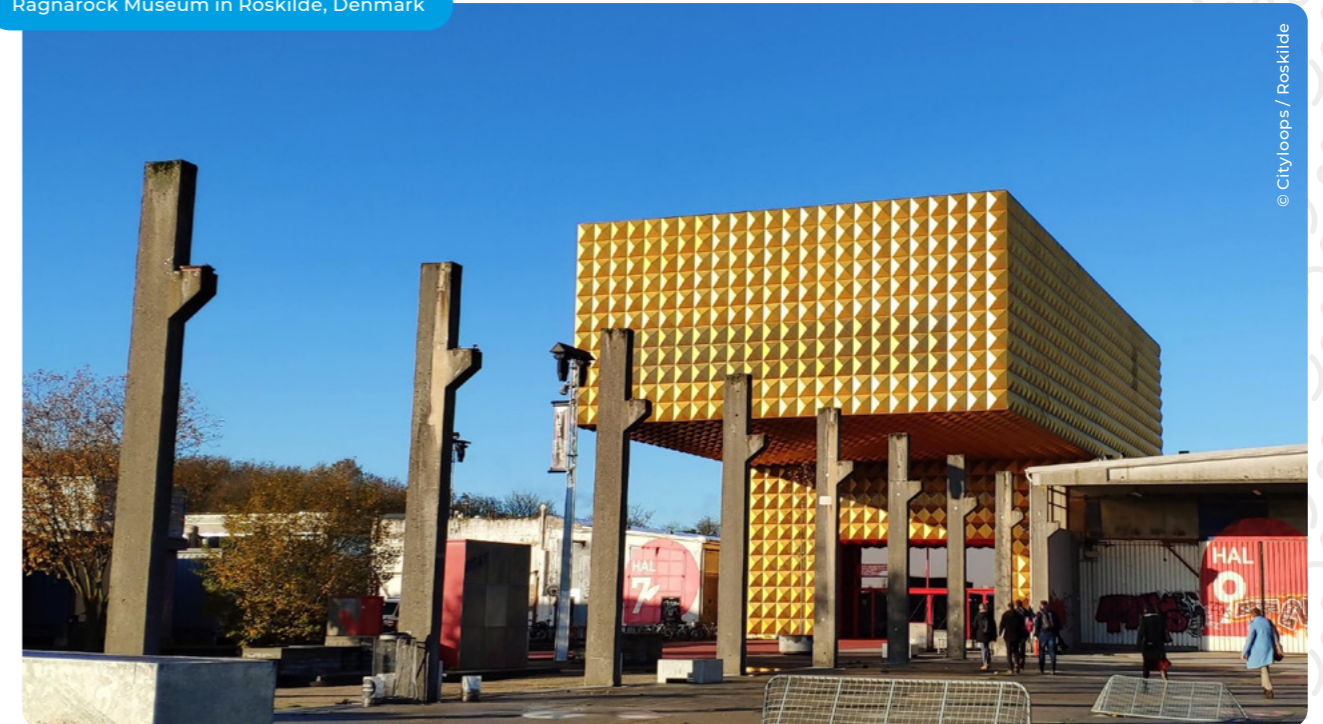


How did the CityLoops cities use circular procurement in their demonstration actions?

The CityLoops project, a collaborative initiative funded by the European Union's Horizon 2020 program, has played a pivotal role in advancing circular procurement practices. By piloting circular solutions in seven small to medium sized European cities, including innovative procurement practices, CityLoops has demonstrated the tangible benefits of circular procurement, such as reduced waste generation, increased resource efficiency, and enhanced economic opportunities. These projects were focused on construction and demolition waste (CDW) and bio-waste. The CityLoops demonstration actions have served as living laboratories, bringing together municipalities, research institutions, and external stakeholders to experiment, innovate, and implement circular procurement strategies. During the CityLoops project, the seven demonstration cities have used public procurement to support their demonstration projects.

In **Roskilde (Denmark)**, the focus was on circular approaches to construction and urban development, resulting in initiatives such as material reuse, circular soil management, and the integration of circular criteria in tenders. During the procurement process for the demonstration actions, proactive measures were taken to address challenges related to the use of recycled and reused materials and the implementation of new construction processes. Early collaboration and active knowledge sharing between contractors and advisors were undertaken to identify opportunities for recycling and reuse. The procurement strategy included setting clear objectives for circular principles and carbon savings in close collaboration with sustainability management. LCA calculations were actively conducted, and expertise from across the value chain was engaged to inform decision-making. Open and trusting dialogue was fostered during negotiation meetings to drive innovation aligned with circular principles.

Ragnarock Museum in Roskilde, Denmark



© Cityloops / Roskilde

Bodø Harbour, Bodø, Norway



Bodø (Norway) undertook demonstration actions to embed circular material management processes, engage stakeholders, and incorporate circular strategies in city planning and development. The CityLoops project in Bodø Municipality has led to the adoption of a new procurement strategy focused on circularity. Through workshops, data gathering, and recommendations from university research, the new procurement strategy was developed to ensure circularity requirements are met by providers. The evaluation of tenders and analysis of spending data identified areas for improvement. Actions such as early market involvement, considering the entire value chain, and implementing framework agreements were taken based on these recommendations. The engagement of a dedicated employee in the procurement department and the use of a procurement sheet further enhanced the strategy. Overall, these efforts have significantly contributed to the municipality's circular procurement practices.

Metropol parasol, Seville, Spain



Seville (Spain) aimed to increase CDW recycling quality and bio-waste collection efficiency. Bio-waste efforts involved expanding collections, reducing food waste through awareness campaigns, and planning city-wide collection and valorisation enhancements. Seville implemented a comprehensive procurement strategy aimed at promoting circular economy principles and effectively managing construction and demolition waste (CDW). Throughout the CityLoops project, Seville collaborated with municipal and private entities to conduct research, develop circular instruments and tools, and enhance circularity in CDW management. The city demonstrated its commitment to circular practices by signing the European Circular Cities Declaration and incorporating circular clauses in procurement processes. Workshops and seminars were organised to facilitate knowledge-sharing and engage stakeholders in the construction and demolition sector. The strategy aimed to foster a circular economy approach in CDW management, contributing to sustainable resource utilisation and waste reduction in Seville.

Apeldoorn, the Netherlands



The municipality of **Apeldoorn (the Netherlands)** aimed at closing the bio-waste and construction and demolition waste (CDW) loops, and showcased the potential of CDW recycling in the renovation of a residential road. The City of Apeldoorn employed several strategies and tools in the procurement process for the CityLoops project. The municipality had a contractual agreement with a supplier of concrete that included requirements for circularity. The agreement stipulated a minimum requirement of 15% secondary aggregate in above-ground concrete products. The municipality aimed to take first steps to close material loops by introducing circular objectives through a set of interventions. A tender guideline was issued, requesting interested contractors to propose ideas to improve circularity, with cost assessments linked to the level of vision, time management, and circularity. Internal sessions were held to discuss the circular execution of the project, involving the principal, project leaders, and stakeholders.

Porto, Portugal



Porto (Portugal) developed **Circular Procurement Guidelines** for food services and green spaces. They mobilised municipal services/departments and stakeholders from the tourism and social sector through workshops to promote and enhance its application to tenders and goods acquisitions processes, aiming to reduce waste and encourage sustainable choices and practices. The workshops bolstered understanding and helped to circulate these guidelines to neighbouring public departments, as well as private entities in tourism and social domains. These guidelines are open for adoption by other cities. Procurement efforts also encompassed obtaining community composters and green space construction services. The goal was to foster eco-conscious practices and the mitigation of bio-waste. The Lipor's **Purchase Central Platform** hosts the tool for suppliers and stakeholders. It is worth noting that Porto's strides in circular procurement through the CityLoops project led to a Sustainable and Circular Public Procurement Policy. This policy, set to apply to Porto and its suppliers, was initiated during CityLoops and is projected to be fully integrated across municipal services within two years.

Mikkeli, Finland



Mikkeli (Finland) conducted case studies and action research, exploring decision-making processes, circular economy policies, procurement, and waste management. Mikkeli implemented a procurement strategy in collaboration with the CityLoops project and the municipal waste company to promote selective demolition and waste separation. The tender documents required contractors to present waste management plans and justify any deviations from sorting requirements. The project also incorporated measures for water sampling, occupational hygiene measurements, and environmental monitoring.

Høje-Taastrup, Denmark



Høje-Taastrup (Denmark) implemented circular conditions in the tender for demolition and soil handling, aiming to maximise recycling and optimise soil management in the construction of a new city hall and residential space. The procurement strategy for Høje-Taastrup city hall prioritised circularity criteria. The tender documents mandated selective demolition and the reuse, recycling, or recovery of a significant portion of materials. The construction of the communal building emphasised the use of recycled materials, with specific weight and component requirements. Sustainable soil management was also emphasised, including soil balance planning, and limiting soil handling. Circular suggestions were added during the tendering process, promoting the use of recycled concrete. Despite initial concerns, the winning bidder incorporated recycled concrete in the foundation of the new city hall, showcasing the successful integration of circular practices in the procurement approach.

2. Taking the right actions at the right time

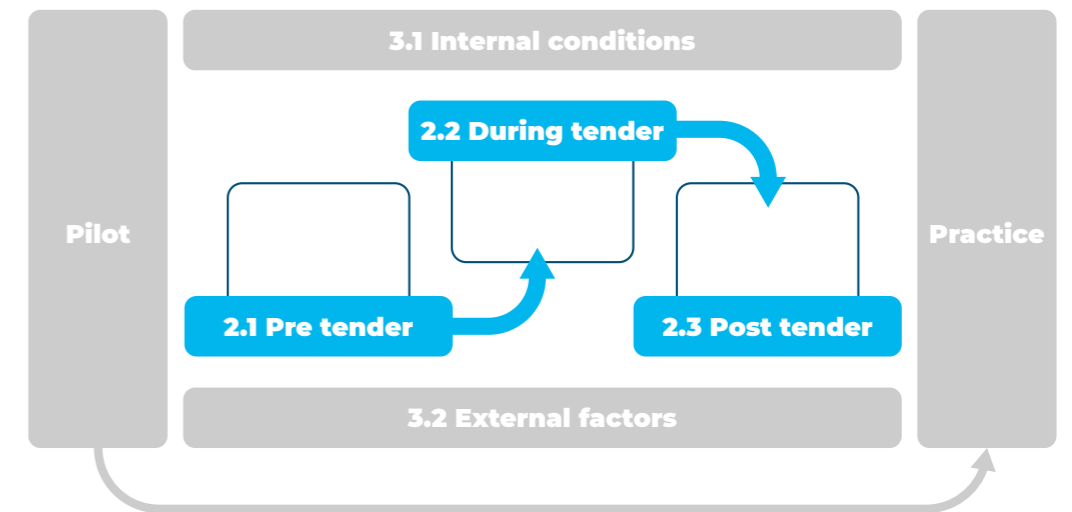
This chapter provides insights and practical tools for successfully incorporating circular practices into procurement at different stages of a project: pre-tender, during tender, and post-tender. The aim is to ensure sustainability throughout the project lifecycle. Additionally, the management of bio-waste and onstruction and demolition waste (CDW) is addressed, as they require different approaches and tools. We explore the specific tools and strategies relevant to each waste stream, offering guidance on how to effectively handle and process them in a circular manner.

management involves the use of demolition and recycling facilities to handle the diverse materials generated from demolition and renovation activities. Sustainable bio-waste management focuses on reducing landfilling, minimising food waste, and promoting circularity. CDW management emphasises selective demolition, material reuse, and recycling. Therefore, the procurement process for bio-waste considers criteria such as processing capacity and product quality, while expertise in demolition and recycling techniques takes precedence for CDW. It is crucial to consider these distinctions when drafting tender documents and selecting appropriate tools to ensure sustainable and efficient solutions for each waste type.

Bio-waste and CDW present notable differences that impact the procurement process and the tools employed. Bio-waste consists of organic materials, such as food waste, garden waste, and green waste, requiring specific processing techniques like composting or anaerobic digestion to manage effectively. Bio-waste management involves the use of composting or anaerobic digestion facilities and technologies. On the other hand, CDW encompasses materials or components generated during building demolition or renovation, such as concrete, wood, metal, glass, and debris. The management of CDW necessitates methods for sorting, recycling, and reuse. This type of waste

In this chapter of the handbook, we delve into the different tools and strategies relevant to the procurement process, focusing on the distinctive challenges and considerations involved in managing CDW and bio-waste. We start by highlighting common actions that can be taken before, during, and after the tender for both CDW and bio-waste. Later, we will delve into specific actions tailored to each waste type. Let's explore how these approaches can lead to successful circular procurement initiatives.

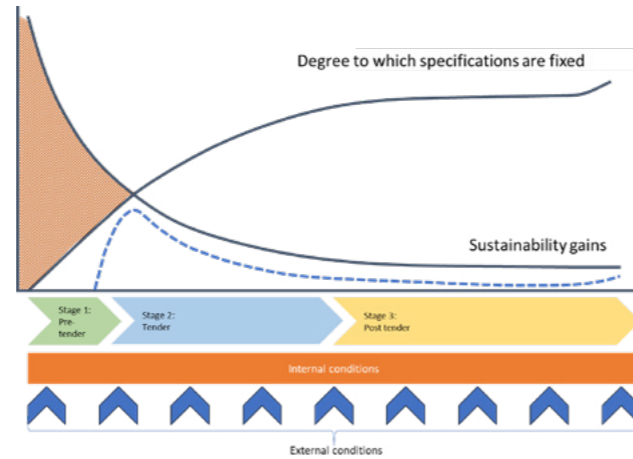
The diagram shows the three consecutive phases in the procurement process.



4. From pilot to practice

2.1 In the pre-tender phase

During the pre-tender phase, the focus is on establishing a solid foundation. The cities within the CityLoops project demonstrated diverse approaches to laying this foundation. By setting the right base, you ensure the management of an ambitious, feasible, and transparent project that appeals to the market. To achieve this, several steps can be taken, including:



Visual of the conditions and factors affecting the procurement process (this diagram was designed by Alba Concepts).

The figure shows the importance of taking action during the pre-tender phase as it's the window of opportunity to make the highest sustainability gains before specifications are defined.

→ **Create a comprehensive strategy:** Creating a comprehensive procurement strategy that incorporates circular principles contributes to a structured and efficient procurement process. By developing this strategy, the team is being forced to foster a better understanding of

how and when you can implement circular procurement. To create this strategy, it is important that (1) you know how a circular procurement strategy could look like and what you need to consider and (2) analyse which scope is interesting for your municipality.

→ **Create a comprehensive strategy examples:**

→ **Create a better understanding about a circular strategy with ISO20400:** ISO 20400 is an internationally recognised standard that offers comprehensive guidance for implementing sustainable procurement practices, with a strong emphasis on integrating social, environmental, and economic considerations throughout the procurement process. When formulating a specific strategy for circular procurement, ISO 20400 becomes an invaluable tool. By aligning the principles of the circular economy with the standard's recommendations, organisations can identify targeted opportunities to source products and services designed for longevity, reparability, and recyclability. The standard facilitates the evaluation of supplier sustainability performance, enabling the selection of partners who share circular values and objectives. ISO 20400 stresses the importance of collaboration and stakeholder engagement and supports the establishment of strategic partnerships within the supply chain, fostering innovation and the co-creation of effective circular solutions. In essence, ISO 20400 serves as a practical guide for seamlessly integrating circular economy principles into procurement strategies, thereby driving resource efficiency, minimising waste, and promoting sustainability across the entire procurement lifecycle.

→ **Create a fitting scope for your municipality with the well-being Monitoring Tool:** Cities greatly benefit from having access to information about the impacts of their chosen policies and initiatives on citizen well-being. Understanding these impacts is crucial for several reasons. The availability of comprehensive data and insights through the well-being tool empowers cities to make evidence-based decisions, optimise resource allocation, and drive positive change in citizen well-being. By understanding the impacts of their policies and initiatives, cities can proactively work towards enhancing well-being, promoting sustainable practices, and creating thriving communities for their residents. Seville's CityLoops project implemented the well-being tool, which provided valuable insights into the current well-being levels in the city and its districts. It allowed for the evaluation of the impact of CityLoop's demo actions on well-being, effectively demonstrating the effectiveness of their initiatives. The tool empowered both managers and citizens by providing data and estimations on composite indicators, demonstration actions, and their impact on well-being. This promoted greater awareness and engagement in circularity and sustainability.

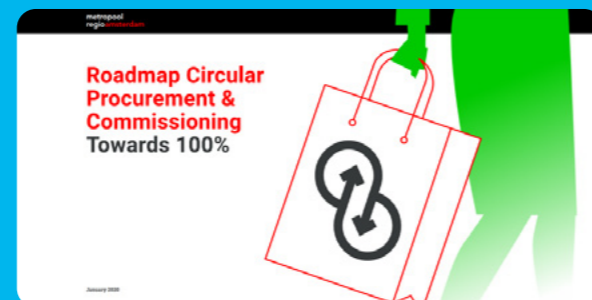
→ For more information the [Well-being Monitoring Tool in the toolkit](#).

→ **Create a clear scope for your project:** To set up a project with ambitions for a circular economy can be hard. It is easy to get lost in all the different options and alternatives that are there. Therefore, it is good to set a clear scope for your project. As you may notice, all the CityLoops demonstration actions set up specific goals, often focusing on areas, such as the utilisation of outgoing concrete. Establishing a clear scope makes it manageable

and enables implementation throughout the procurement process. With increasing experience, the scope can be expanded to encompass more aspects. **Apeldoorn** tested multiple sorting and treatment processes in the laboratory to create a list of innovative sorting and treatment options for bio-waste from green space. This approach helped them set a clear scope for their projects.

Good practice example: Amsterdam's Circular Procurement roadmap

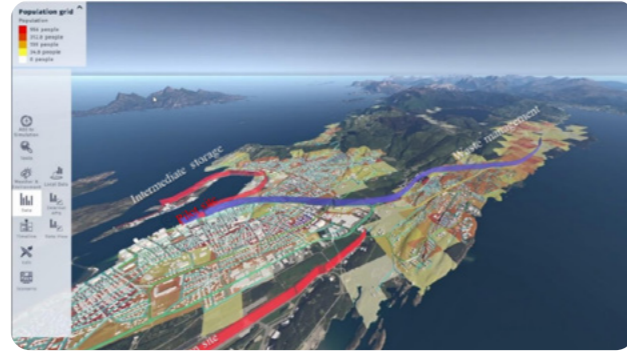
The Metropolitan Region of Amsterdam's Circular Procurement Roadmap aims to have 50% of contracts in line with the principles of a circular economy by 2025, and reach 100% as soon as possible.⁵ While it might not yet be possible for the market to provide a circular solution, the roadmap outlines how the criteria and requirements will evolve over time. Having a mid to long-term strategy can help to communicate to the potential suppliers how the criteria for tenders might evolve over time. In turn, this can also help suppliers to develop the necessary knowledge, competencies and know-how, as well as hire staff, to fulfill the requirements of upcoming circular projects.



The Metropolitan Region of Amsterdam's Circular Procurement Roadmap

⁵ Metropolitan Region of Amsterdam, [Roadmap Circular Procurement & Commissioning Towards 100%](#), (2020)

→ **Gather the right information:** Something that can help set the right scope for your project is to create an overview of the existing materials. **Bodø** created an overview of the reuse potential of the identified resources. With this overview, you can determine which material flows are worth reusing and which are not contributing to creating a positive climate impact. Depending on your procurement strategy, you can further analyse this overview to specific solutions for the project. Alternatively, you can include this overview in your tender to challenge the market with quality criteria.



3D visualisation tool of the demonstration site in Bodø © Bodø Kommune – Cityloops

→ For more information go to [Visualisation Tool for monitoring and Planning in the toolkit](#)



Demonstration site in Bodø © Bodø Kommune – CityLoops

→ **Start a dialogue with the market:** Often a market dialogue can mitigate the risk of not achieving the desired results or of having no bidders at all. You can initiate a market dialogue to verify the following aspects:

- Gather information on what the market can offer, enabling you to formulate appropriate requirements;

- Assess the feasibility of the requirements you have created for the market;
- Determine the market's interest in participating in your tender;
- Obtain feedback on your procurement/tender strategy.

→ For more information, please refer to the [“Market dialogue” tool in the toolkit](#).

→ **Create SMART goals:** When the scope and overview are created, you can determine Specific, Measurable, Acceptable, Realistic and Time-based (SMART) goals. In the cities we saw different types of goals. Less experienced municipalities formulated goals that were more focused on gathering knowledge and understanding what was possible. Municipalities or countries that

had more experience in circular construction, often had more information to create a specific goal. For example, **Apeldoorn** set up a goal: at least 15% of the outcoming materials had to be recycled. Other cities focused on recycling as many materials as possible. By setting a SMARTer goal, it is easier to monitor whether the goal is being achieved.

→ For practical guidance on how to conduct an Urban Circularity Assessment (UCA) and evaluate the circularity of your city, you can explore the UCA Handbook. The handbook can be found [here](#).

2.1.1 For bio-waste

To prepare a tender that involves the collection or valorisation of bio-waste, you can use the following tools.

→ **The Circular Procurement Guidelines decision making tool:** This tool is designed to aid in the development of a procurement strategy and a set of circular criteria recommendations to be integrated into public procurement processes for school meals and catering services, as well as the maintenance of green spaces. This tool presents a comprehensive perspective on the circular economy in relation to school meals and catering services, and green space maintenance, thereby assisting public authorities in identifying potential shortcomings and, consequently, the requirement for new products and services. Additionally, the tool provides guidance on the definition and formulation of criteria throughout various stages of the procurement procedure. This tool was created by the municipality of **Porto** which guides you in creating a fitting strategy.

→ For more information, please refer to the [“Circular Procurement Guidelines” tool in the toolkit](#).

→ **The business case development tool for bio-waste:** Obtaining accurate and comprehensive information is of utmost importance for cities engaging in circular procurement. Having access to the right data allows cities to make informed decisions and develop robust business cases. The smart collection system tool provides cities with valuable insights into waste collection quantity, bin usage patterns, and maintenance operations, which are crucial factors in optimising bio-waste collection. The availability of comprehensive information through the smart collection system tool is crucial for cities engaging in circular procurement. It empowers cities to optimise



Bio-waste

© unsplash.com / Joshua Hoehne

waste collection routes and enhance operational efficiency. Ultimately, these efforts contribute to the creation of more resilient, environmentally conscious, and prosperous cities. For instance, **Apeldoorn** employed the business case development tool to create business cases for demonstration actions, evaluating their effectiveness and suitability for their specific needs. This tool plays a crucial role in evaluating the feasibility and promoting the adoption of circular procurement initiatives within the city.

→ For more information, please refer to the [“the business case development” tool in the toolkit](#).

→ More tools and methodologies on the circular management of bio-waste are available in the handbook for local authorities. The handbook can be found [here](#).

2.1.2 For construction and demolition waste

To prepare a tender for a circular construction or demolition project, the following tool might be useful.

→ A tool that has been frequently used in CityLoops' CDW demonstration actions is the **CO₂ calculation tool**. This tool gives you the chance to weigh different alternatives in carbon emissions. **Høje-Taastrup** used the tool to conduct carbon calculations to support sustainable soil management. The calculations revealed that approximately 30 tonnes of CO₂ were saved by transporting the soil over a shorter distance. This highlights the benefits of circular soil management and underscores the positive environmental impact of reducing transportation distances. However, this tool can also be used in the pre-early design stages. In this way, you will make sure that the market will have the optimal conditions for the project to create a positive impact.

→ For more information, please refer to the "**CO₂ calculation" tool in the toolkit**

→ More tools and methodologies on the circular management of construction and demolition waste are available in the handbook for local authorities. The handbook can be found [here](#).

Building plans



2.2 In the tender phase

Once you have laid the foundation and have done the necessary preparations, it is time to tender. The CityLoops demonstration cities have used several

approaches to incorporate circular elements in the tendering phase. The key lessons learned are summarised below.

→ **Create requirements that are SMART, feasible and controllable:** The requirements used in tenders should be aligned with the circular objectives that were set out in the pre-tender phase, as well as encourage suppliers to provide more circular solutions. The requirements should focus on the functional or technical specifications, rather than aesthetics or specific products. A functional circular requirement could, for instance, aim at reusing as much materials as possible (circular performance). This circular performance should be quantified through objective measurement methods (as outlined in the sector on tendering for a construction and demolition project). This approach enables the market to be more innovative and propose materials or products that fulfill the functional needs of the client, rather than focusing on technical specifications. If you think that there is insufficient experience or knowledge to formulate circularity performance requirements, you can alternatively opt for requirements that mandate

the use of specific tools to assess circularity performance. Nonetheless, when introducing novel types of requirements, it is vital to assess whether the market is willing and able to meet them. Market dialogues and research can help assess market readiness to deliver more circular solutions. Communicating early on the circular ambitions of a project will ensure that potential bidders understand the desired outcomes and clarify the tender requirements. Further discussion on this matter is covered in the 'Market Dialogue' section above. Should you decide to set requirements, you have the flexibility to do so for the following aspects:

- The tools that should be utilised,
- Insights that should be generated,
- Performance in material handling or for new incoming materials,
- The method and timing for verifying a goal/requirement.

→ **Develop circular criteria:** In line with the chosen procurement strategy, you can establish quality criteria for the areas in which you believe companies in the market can challenge each other. This can include determining benchmarks to assess circularity. Bodø developed criteria for soil management on their demonstration site.

The winning contractor had to either reuse the excavated soil on-site, or reuse the soil on another site. The criteria also considered the possibility of sorting, cleaning of contaminated soil and handling of this contaminated soil. The award criteria consider the soil reuse potential (measured by mass).

→ Set up fitting weights for the different criteria:

In the development phase, it is important to define value beyond monetary terms. Multiple cities observed that setting up quality criteria based on sustainability and price, would not lead to a favourable decision. Therefore, you can try three different approaches:

→ **Low weight on price:** You can influence the outcome by making sure the quality criteria for sustainability have enough weight in the tendering process. This encourages the market to offer competitive circular solutions. If the price is given equal or higher importance in a tender, it may deter the market from providing a wide range of circular options. In such cases, offering a lower price becomes more critical than providing high-quality, sustainable solutions.

→ **Maximum price:** If the budget is tight, or if it is important to have control over its allocation, you can set a maximum amount for the requirements and criteria you are requesting. This approach shifts the focus from the cheapest option to the one that delivers the most value or quality.

→ **Total cost of ownership:** Consider using the concept of total cost of ownership, which considers the overall costs associated with a product or service throughout its complete lifecycle. This approach enables a more comprehensive evaluation of the environmental and economic impacts, promoting better decision-making aligned with circular principles.

→ Circular contracts that explicitly integrate circularity principles:

These contracts should set specific requirements and criteria related to circular practices, defining measurable circular performance indicators and objectives. By establishing circular contracts, the city sets a precedent for sustainable and circular practices, encouraging suppliers to adopt innovative and environmentally friendly approaches.

2.2.1 For bio-waste

The CityLoops cities have used the following tools aimed at improving bio-waste management in their tendering processes.

→ **OMSW flow optimisation tool:** To effectively improve bio-waste management, cities must constantly explore opportunities for potential enhancements. One tool that proves instrumental in this regard is the Organic Municipal Solid Waste (OMSW) flow optimisation tool, developed by the city of **Seville**. The OMSW flow optimisation tool provides cities with the means to assess and enhance bio-waste management practices. By using this tool, cities can optimise organic waste collection routes, minimise environmental impact, and drive sustainable practices. In the context of circular procurement, the tool plays a vital role in supporting data-driven decision-making, optimising resource allocation, and promoting sustainability within the city.

→ For more information, please refer to the **["OMSW flow optimisation tool" tool in the toolkit](#)**.

→ **General guide for bio-waste management in public procurement:** This tool can be used as a general guide for managing organic waste creation and handling in public procurement and public procurement related processes and functions. It aims to enhance the collection and sorting of organic waste and reduce carbon dioxide emissions in services and functions based on public procurement in the **City of Mikkeli**. It also aims to enhance the utilisation of organic waste. It is designed to support the city of Mikkeli in reaching the green deal ambitions and goals. The tool helps the experts within Mikkeli city's organisation to identify the links to the reduction, handling or reuse of organic waste in a single tender within the wide scope of procurement processes. It will enhance the neutrality and quality of the tenders within different branches. The guide was officially approved by the city in April 2023 for use in the city's procurement processes.

→ **[The guide can be downloaded here.](#)**

Community composting facilities in Porto



→ **Procurement guide for usage of biogas as a motive power in transportation and logistics services:** The procurement guide for usage of biogas as a motive power in transportation and logistics services can be used to reduce unprocessed organic waste creation and promote the utilisation of organic waste in biogas production. It aims to support the procurement of public transportation and logistics services in a way that reduces carbon dioxide emissions and promotes demand for biogas as a motive power in tenders. It also supports the goal of a closed cycle for organic waste and its end products. The guide helps to underline the demands of sustainability, low carbon dioxide emissions and the usage of biogas as a motive power in public procurement processes, tenders and documents of traffic, transportation, and logistics contracts in the [City of Mikkeli](#).

→ The guide can be [downloaded here](#), alongside two case studies - a procurement report [of the local transport procurement process](#) and a [procurement report of the wastetransportation procurement process](#).

→ More tools and methodologies on the circular management of bio-waste are available in the handbook for local authorities. The handbook can be found [here](#).

2.2.2 For construction and demolition waste

The CityLoops cities have used the following tools aimed at improving construction and demolition waste management in their tendering processes.

Høje-Taastrup, Denmark



→ **Objective measurement criteria:** It is crucial to employ objective measurement methods to assess suppliers' circular performance accurately. By using standardised assessment frameworks or tools, you can ensure transparency and comparability among bids. The municipality of [Apeldoorn](#) did this by using the '(ECI) Environmental Cost Indicators', which is a tool that created objective data on climate impact for products. The fact that this is approved nationwide in the Netherlands, makes it controllable and measurable on a large scale. The data is derived from Lifecycle Assessments (LCA) that are set up by independent experts. Once the LCA is created, another external expert verifies if the data is correct. If such a tool is not available in your country, you can use tools like the previously mentioned CO₂ calculator. Nevertheless, allowing individuals to input the data themselves will inevitably result in variations in interpretation. Over the long term, it might be worth contemplating the establishment of something akin to the ECI. Another tool that shows the circularity of products and disassembly potential is the Building Circularity Index (BCI).

→ For more information, please refer to the ["Building Circularity Index" in the toolkit](#).

→ **Create verification and validation methods:** While setting up requirements and quality criteria is important, it is equally crucial to establish a monitoring system to ensure these requirements or criteria are being met. The cities showed that it was difficult to verify the requirements

due to a lack of verification and validation tools. You can solve this by setting up requirements on monitoring milestones for the circularity performances of the project. You can validate the results by using the objective measurements such as ECI, CO₂ calculator or BCI.

→ **Implement a comprehensive waste management plan:** to ensure the effective and responsible management of waste across the lifecycle of a project. This integration will optimise waste collection, processing, and disposal activities, promote resource recovery, minimise waste sent to landfills, and enable efficient tracking and analysis of waste flows. A waste management plan will help the cities to enhance waste collection

efficiency, improve waste segregation and recycling efforts, and establish a circular and sustainable approach to managing demolition waste in alignment with circular procurement objectives.

→ For more information, please refer to the ["Waste Management plan" tool in the toolkit](#).

→ **Set up a marketplace:** Consider creating a digital marketplace where suppliers can showcase their circular products and services. The municipality of [Apeldoorn](#) did this with DuSpot. [DuSpot](#) is an online matching tool, that serves as a central platform for governments, contractors, and engineering offices to match supply and demand. The municipality of Apeldoorn initially tested DuSpot in a residential area as part of a circular road renovation project. Following successful results and advantages over other tools in a trial period, DuSpot is widely available for closing material loops in municipal projects. These types of platforms will facilitate access to a broader range of circular options and promote a circular economy within your procurement activities.

→ For more information, please refer to the ["Databank and Digital Marketplace for Recovered materials" tool in the toolkit](#).



Apeldoorn collaborates with Duspot
© Duspot by "Michiel Bruins"

→ More tools and methodologies on the circular management of construction and demolition waste are available in the handbook for local authorities. The handbook can be found [here](#).

→ More guidance on construction and demolition procurement is available in the CityLoops guidelines. The guidelines can be found [here](#).

2.3 In the post-tender phase

Once the contract has been awarded to a supplier or group of suppliers, it is crucial to monitor and evaluate the implementation of the contract, ensure that contract meets the circular economy objectives, and identify any aspects that are not going to plan. To foster this learning process, local governments can use the approaches outlined below.

- **Develop benchmarks:** Creating a database to track of all the results and measurements you have taken will enable a learning-by-doing approach. This database can also serve to create feasible, realistic, but ambitious goals and requirements for upcoming projects.
- **Evaluate with 'plan do check act':** Working with a Plan-Do-Check-Act (PDCA) cycle allows the city to continuously assess and improve circular practices, identifying areas for improvement and implementing corrective actions to optimise circular outcomes. You can do this by doing regular evaluations and audits of the circular procurement processes to identify areas for improvement, collaborating with industry partners and research institutions to stay updated on the latest circular innovations, and actively participating in knowledge-sharing networks and platforms to exchange experiences and best practices with other cities.

2.3.1 For construction and demolition waste

The CityLoops cities have used the following tool aimed at improving construction and demolition waste management in the post-tender phase.

- **Create a material passport:** Following the completion of the procurement process, it might be good to use a material passport as a comprehensive documentation tool. This passport provides valuable insights into the composition, origin, and potential for reuse or recycling of procured materials. Regularly updating and sharing the material passport within your organisation and the wider industry facilitates knowledge sharing and drives ongoing progress in circular procurement practices.

- For more information, refer to **“Material passport” tool in the toolkit**.



Screenhot of a materials passport in the 'overige objecten' module (<https://obsurv.nl/> 9-3-2021)

- More tools and methodologies on the circular management of construction and demolition waste are available in the handbook for local authorities. The handbook can be found [here](#).

Venlo City Hall, Netherlands



3. Leveraging internal conditions and external factors

Looking at the CityLoops demonstration projects, the successful implementation of circular procurement initiatives depends not only on the actions taken during the procurement phases, but also on the internal conditions within local government organisations and the external factors that shape the broader context. The diagram below shows that these conditions and factors are always affecting the procurement process.

This chapter explores the interplay between internal and external conditions for circular procurement, highlighting the importance of aligning both spheres to drive sustainable transformations. But before we delve into the various factors, it is important to take the following considerations into account:

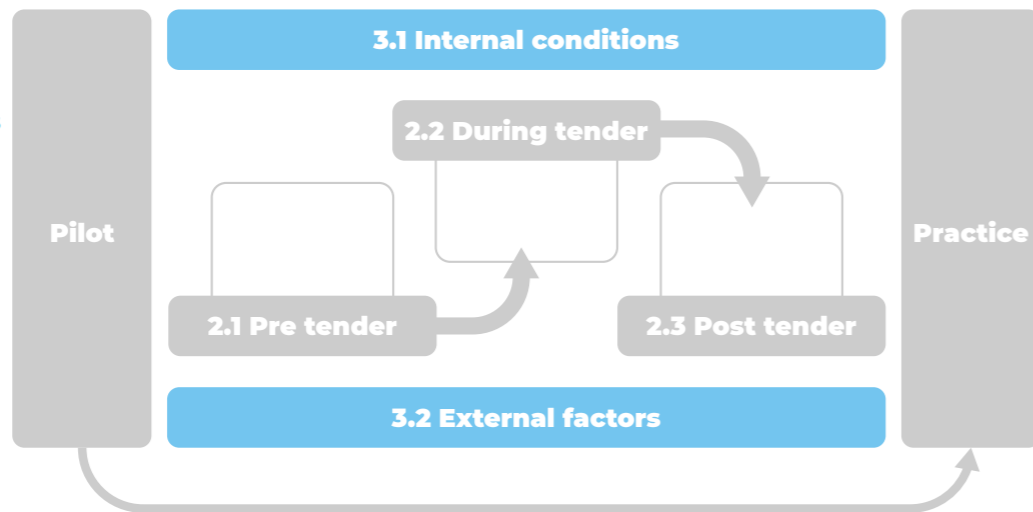
- Each intervention or consideration must be proportionate to the subject matter, ensuring that the strategies and actions implemented align appropriately with the specific context and scope of the procurement process. It is important to

note that not all actions need to be applied to every project. Rather, a thoughtful assessment is required to determine which actions are fitting for each individual project's circumstances.

- Give precedence to specific product groups and categories. This prioritisation involves conducting a spend analysis that not only encompasses traditional financial factors but also identifies opportunities for environmental and social impacts. Through this analysis, organisations can strategically allocate resources and efforts towards the areas that show the greatest potential for substantial circular advancements. This focused approach ensures the integration of circular principles where they can yield the most impactful outcomes, thereby fostering a comprehensive implementation of sustainable procurement practices.

With that in mind, we will dive deeper into the internal conditions and external factors in the following sections.

The diagram shows that these conditions and factors are always affecting the procurement process.



4. From pilot to practice

3.1 Internal conditions

This section delves into the internal conditions that are necessary for the successful implementation of circular procurement within cities, drawing insights from the CityLoops project.

3.1.1 Trust

Trust is essential to establish agreements and implement actions. If there is no trust, parties are less likely to innovate, collaborate, think creatively and be productive. As with change management, trust is an essential condition for circular procurement, both within and outside of an organisation. **Roskilde** made this one of their top priorities. They invested in creating trust among each other, but also towards their partners. They fostered trust by using the following approaches.

- **Be open and transparent to your partners:** This is centered on collaboration and understanding the rationale behind decisions, even when the project may not unfold as anticipated due to changes in the market, resource constraints, or unforeseen challenges. Being open and transparent and providing explanations where necessary, ensures that when projects encounter obstacles or deviate from the original plan, the focus is on problem-solving rather than blaming. Instead of reacting with frustration when problems occur, the emphasis is on engaging in constructive conversations and proactively seeking solutions early on. By adopting this approach, not only can solutions be generated more swiftly, the collaborative work experience is likely to be more enjoyable as well.

- **Create performance-based contracts:** Excessively specifying every requirement in a contract can have adverse consequences, and foster a sense of mistrust. Contracts are of course essential for ensuring specific goals, quality, and approaches. However, rather than meticulously controlling each stage, you can build trust by outlining the "what", without necessarily delving into the intricate "how" or minute details. This demonstrates to your stakeholders that you have confidence in their expertise and capabilities, and entrusting them to execute the task competently. This trust-based approach can yield tangible results. Operating in this manner can lead to innovative solutions, a smoother process, and stronger partnerships that withstand the test of time.



3.1.2 Knowledge

An example from **Mikkeli** showcased the transformative power of the CityLoops project. The municipality of Mikkeli initially faced a significant challenge due to a lack of knowledge on circular procurement. However, the CityLoops project served as a change-agent, by emphasising the importance of adopting a strategic approach to circular procurement and integrating it into the city's overall strategy. By fostering a shared understanding of circular thinking across the administration and investing in education and training, the municipality overcame this knowledge gap and successfully incorporated circular procurement practices into its operations. Through these proactive measures, municipalities can effectively integrate circularity into their procurement processes, capitalising on lessons learned, empowering their workforce, and accessing reliable information. By doing so, they contribute to a more sustainable and circular future.

In **Porto**, the initial process was similar. The Municipality recognised that there was a lack of knowledge on circular procurement and the difficulties in changing criteria in purchasing processes (due to public procurement policies, administrative habits or/and lowest price remaining the award criteria). Therefore, the Municipality developed a transversal Sustainable and Circular Public Procurement Policy, which is applicable to Porto Municipality and its suppliers. CityLoops played an important role in the development of this procurement policy. Recognising the importance of this strategy, not solely on a technical level, but mainly at a political level, a municipal task force with decision makers from environment, economy, purchasing and social services was created. It also involves the participation of municipality technicians, stakeholders and suppliers. Simultaneously, workshops targeted at municipal technicians from different services and at stakeholders (companies and associations from tourism and social sectors) were carried out in order to raise awareness and bring knowledge on circular procurement and criteria.

Drawing from the examples above, municipalities can successfully implement circular procurement by:

- Using past experiences in decision-making, identify challenges, and highlight best practices, facilitate an efficient transition to circular procurement.
- Equipping the municipal workforce with a good grasp of circular economy principles and sustainable procurement strategies to enable them to identify circular opportunities and make informed decisions.
- Facilitating access to reliable information about alternative circular products, supplier capabilities, and environmental impact assessments is crucial for effective decision-making.

3.1.3 Organisational collaboration

The success of circular procurement initiatives is greatly influenced by the organisational collaboration and culture within an entity.

In **Høje-Taastrup**, there was an opportunity to use recycled sidewalk tiles in the new city hall area. However, the municipal Department of Roads was responsible for urban management in the area and showed a lack of interest in laying the tiles or providing a test area for recycled tiles. Furthermore, when asked about the potential reuse of tiles as aggregates in new tiles, the roads department expressed disinterest in this option as well. The Municipality of Porto also experienced something similar. When workshops were held to raise awareness of the Circular Procurement Guidelines and promote the use of circular criteria across municipal services, there was a clear need for a cross-services, cross-departments top-down approach with the commitment of decision makers for a transversal and an organisational change of practices that enable more sustainable and circular public procurement.

These examples show that when departments pursue their own objectives in a siloed and uncoordinated manner, it can hinder the implementation of circular procurement practices. You can promote organisational collaboration by considering the following approaches:

- Getting the strong commitment from senior management and policymakers to establish a clear vision and integrate circularity goals into strategic plans, policies, and practical implementation.
- Effective coordination between departments, such as procurement, sustainability, and operations, ensures the integration of circular principles throughout the procurement process.

- Cultivating a supportive organisational environment that values sustainability and circularity involves integrating these principles into the core mission, enhancing communication, offering training, and fostering an innovative culture. This approach encourages stakeholders to engage proactively in circular procurement initiatives, thereby enhancing its impact on the circular economy.

Teamwork makes the dream work



3.1.4 Financial resources

The availability of financial resources is essential in driving circular procurement practices. Investing in circular products, technologies, and infrastructure often requires upfront costs that may exceed those associated with traditional linear alternatives. These investments can offer lasting advantages by cutting waste, prolonging product lifespans, and optimising resource use. This concept is known as total cost of ownership, which involves considering more than just initial investment expenses, but also the costs incurred during use. Numerous cities had difficulties with finding the financial resources to fund the solutions required and monetising the benefits in the long run. However, **Mikkeli** consciously opted to allocate more funds upfront in the project, ensuring greater assurance of a sound solution and averting potential disapproval from their residents. A way to do this is by allocating sufficient financial and human resources and through the following two strategies:

- Work with people in or outside of your procurement team that are (highly) motivated to create a sustainable and/or circular solution. These individuals with a deep understanding of circular economy principles, sustainable procurement practices, or waste management strategies, can enable you to make informed decisions and identify suitable circular procurement opportunities.
- Considering total cost of ownership (TCO) instead of solely focusing on the initial investment costs. TCO considers not just the upfront expenses but also factors in the costs associated with the entire lifecycle of a product or service. This approach provides a more accurate representation of the overall financial impact and helps in avoiding hidden, long-term expenses that might arise due to maintenance, repairs, energy consumption, and disposal.

Good practice example: Street lighting in Copenhagen, Denmark

Instead of looking solely at the initial cost of installing new LED streetlights, the municipality of **Copenhagen** factored in the energy savings, reduced maintenance requirements, and longer lifespan of LED lights. This approach led them to invest in higher quality, albeit slightly more expensive, LED lights. Over time, the TCO analysis revealed significant cost savings due to reduced energy consumption and maintenance needs. This demonstrated how considering TCO beyond just investment costs can yield more financially sound decisions that align with sustainability goals and provide better value in the long run for municipalities.



Copenhagen, Denmark at night © Morten Nygaard – Unsplash

3.1.5 Governance structure

Aligning policies and governance structures with sustainable development goals is essential for establishing a clear direction and supportive environment for circular procurement. Municipalities demonstrate their commitment to sustainability and prioritise circular practices by integrating circularity objectives into strategic plans, policies, and regulations.

Good practice example: Seville, Spain CityLoops

The city of **Seville** demonstrated its commitment to the United Nations' 2030 Agenda for sustainable development (SDGs) by integrating the agenda as the benchmark for its strategic and sectoral planning. This commitment emphasises Seville's resolve to achieve the global objectives set by the SDGs. By embedding sustainable development principles in decision-making processes and actions, the city's governance structure ensures that sustainable practices are prioritised.



The 17 United Nations Sustainable Development Goals © United Nations

By aligning their policies and governance structures with sustainable development goals, municipalities can adopt a more holistic approach to circular procurement. This approach integrates environmental, social, and economic considerations into procurement practices, enabling the maximisation of resources, minimisation of waste, and enhancement of societal well-being. The comprehensive efforts of municipalities in aligning their policies with sustainable development goals contribute to the creation of a more sustainable and circular future. This alignment ensures consistency and provides a framework for incorporating circularity criteria into procurement processes. This results in the following actions:

- Make sure there is a clear guidance from senior management and policymakers that fosters a supportive culture, encouraging staff to embrace circular procurement and contribute to its success. By aligning policies and governance structures with sustainable development goals, the municipalities that participated in the CityLoops project can effectively drive sustainable transformations in waste management and construction, paving the way for a circular and sustainable future.
- A tool that can help foster this in your organisation, is **the ISO 20400 standard**. The standard encourages organisations to align their procurement strategies with their overall sustainability goals and objectives. This alignment ensures that circular procurement becomes an integral part of the organisational culture, rather than a separate initiative.

3.2 External factors

While internal factors within government organisations play a crucial role in enabling circular procurement, it is equally important to consider the external factors that can either facilitate or hinder the implementation of such practices. This

section explores key external factors that influence the success of circular procurement initiatives and highlights the importance of stakeholder engagement, regulatory frameworks, market dynamics, and collaboration.

3.2.1 Regulatory frameworks and incentives

A supportive regulatory framework plays a pivotal role in promoting and accelerating circular procurement. Governments can establish policies, regulations, and guidelines that incentivise and mandate circular practices. These may include setting sustainability criteria in public procurement processes, requiring suppliers to demonstrate circularity in their offerings, providing tax incentives or grants for circular initiatives, and creating standards and certifications for circular products and services. The municipality of Bodø set up an overarching environmental program for the development of the new city district. This program encompasses nature conservation, waste management, circular material processing, and energy efficiency. CityLoops has played a role in formulating waste management policies and has significantly contributed to the circular material processing category. The overall environmental program serves as a concrete manifestation of Bodø's mass handling policy for the new city district, providing a framework for climate and environmental goals in its development. Compliance with these regulations ensures that procurement processes align with broader sustainability goals and encourages businesses to adopt circular approaches.

As a municipality you can advocate for new laws and regulations that promote circular products by:

→ **Creating a nation- or EU-wide database for circular products:** A comprehensive database on circular products, such as the Netherlands' National Environmental Database, is indispensable for the following reasons:

- These databases facilitate a holistic understanding of circularity by offering a robust repository of information, enabling effective comparisons between products and practices. This comparative analysis is crucial in distinguishing superior circular solutions.
- Fostering a competitive environment that encourages manufacturers to innovate and develop products that surpass their counterparts. Such databases not only support well-informed decision-making but also incentivise producers to strive for continuous improvement in creating products that demonstrate higher circularity and environmental performance.

3.2.2 Stakeholder Engagement and Awareness

In **Mikkeli**, two stakeholder groups have been established to support the bio-waste demonstration project. The first group, consisting of citizens, waste management companies, and municipal bodies, explored alternative collection models and citizen engagement actions to maximise the volume and quality of the collected bio-waste, enabling future replication and upscaling efforts. The second group, comprising of organisations involved in bio-waste collection and sorting, met regularly to analyse, and discuss various collection and sorting models, playing a pivotal role in implementing future activities across the city. Engaging these stakeholders ensured that diverse perspectives and expertise were considered, fostering a collaborative environment that enhanced the effectiveness and sustainability of circular procurement initiatives.

Engaging stakeholders ensures that a broad spectrum of perspectives are represented, fosters support for circular procurement initiatives and facilitates the identification of innovative solutions. Additionally, raising awareness and providing education about circular economy principles and the benefits of circular procurement can create a supportive environment and drive demand for sustainable products and services. In **Apeldoorn**,

the procurement process was optimised for circular solutions through a collaborative approach called a "construction team". It involved the contractor in the design phase, allowing for thorough consideration and implementation of circular options during construction. By engaging stakeholders from the beginning, the construction team enhanced resource management, risk mitigation, coordination, decision-making, and quality standards, resulting in a more efficient and impactful circular procurement process. This collaborative approach demonstrated the importance of engaging stakeholders to maximise the potential of circular procurement and drive sustainable practices in Apeldoorn.

In **Porto**, key groups will be involved to develop the Sustainable and Circular Public Procurement Policy. In addition to municipal technicians and policymakers, external stakeholders and suppliers from different goods sectors will be involved in the co-creation process to guarantee that the policy integrates the different perspectives, challenges, and opportunities and allow the transformation to a circular economy to occur in the procurement market without leaving anyone behind as much as possible.



CityLoops workshop

3.2.3 International agreements on sustainability

International agreements, such as the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement, provide a global framework for sustainability and set targets that cities and governments can align with. By incorporating circular procurement practices, cities demonstrate their commitment to sustainability and contribute to achieving the SDGs, including responsible consumption and production, sustainable cities and communities, climate action, and partnership. Circular procurement also supports the goals of the Paris Agreement by reducing emissions and promoting resource efficiency. By integrating circular procurement in line with these international agreements, cities enhance their sustainability

efforts, drive positive environmental and social impacts, and foster collaboration among cities worldwide towards a common goal of a more circular and sustainable economy.

Such a commitment was made by **Roskilde Municipality**, which prioritised sustainability in their building projects by emphasising the UN's 17 global goals for sustainability. Through their adoption of a circular approach, the municipality aims to establish inspiring benchmarks within the local community, showcasing their dedication to responsible consumption and production while striving towards a more circular economy.

3.2.4 Economic incentives

Economic incentives play a crucial role in promoting circular construction practices by providing financial benefits and rewards that motivate businesses to adopt circular procurement strategies. The influence of economic considerations on circular procurement decisions can be observed in the case of **Seville**. In the Tablaba Industrial Sector's sanitation project, the elevated unit cost of circular products, particularly repurposed construction, and demolition waste, proved challenging compared to traditional materials. Consequently, Seville opted to use a greater number of traditional materials due to the price difference between the two options.

To address this economic challenge and foster the adoption of circular construction practices, various approaches can be taken:

- **Grants and Subsidies:** Governments can offer financial support through grants and subsidies to assist businesses in implementing circular practices. This financial assistance can offset the higher costs associated with circular materials and encourage their adoption.
- **Tax Incentives:** Providing tax incentives, such as deductions or exemptions, for businesses investing in circular construction can alleviate the financial burden. These incentives make circular investments more economically attractive, further motivating businesses to adopt circular procurement strategies.

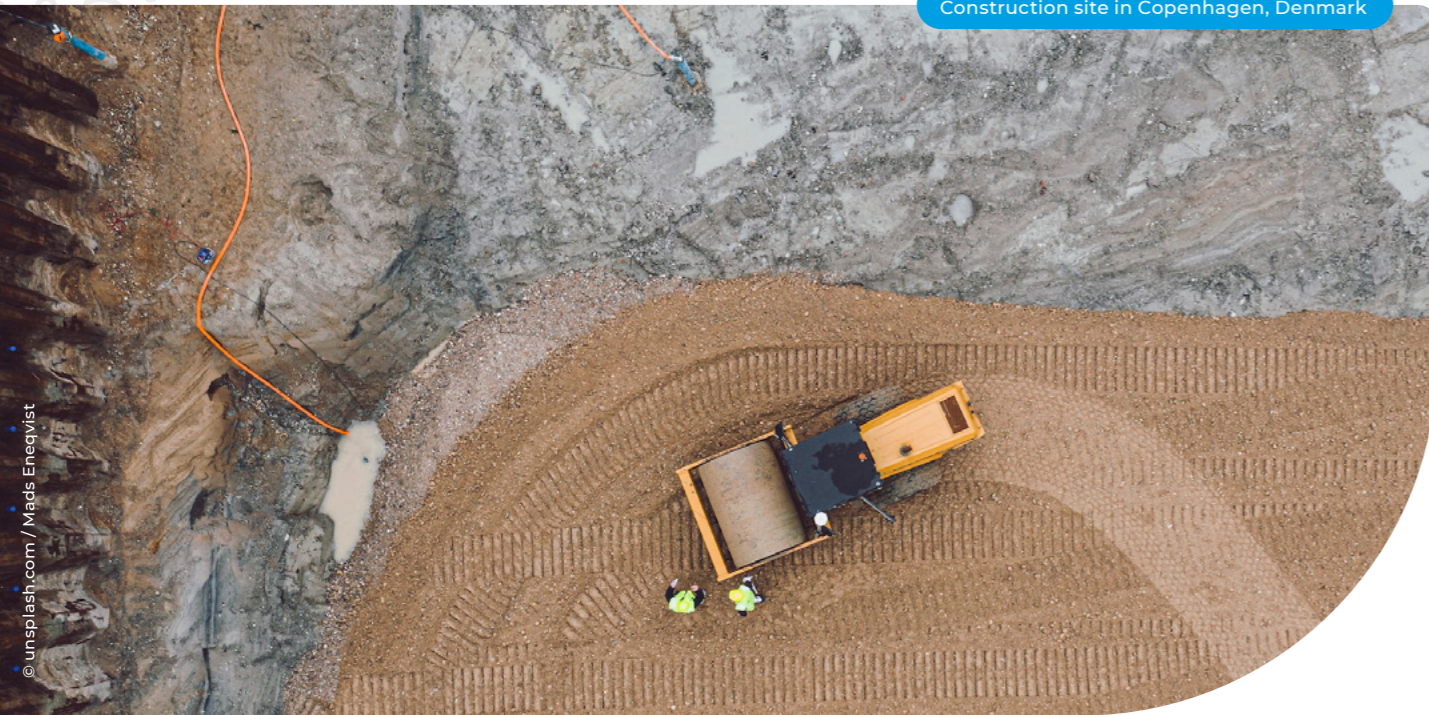
3.2.5 Stakeholder collaboration

Seville demonstrated the power of stakeholder collaboration in circular procurement. In February 2020, a workshop was organised to facilitate collaboration among stakeholders involved in the circular procurement process. Participants included representatives from waste companies (responsible for landfills), local construction companies, municipal departments, consumer associations, and other relevant entities. The workshop served as a platform to present their take on circular procurement and fostered collaboration among diverse stakeholders. Through such collaborative efforts, government organisations can enhance their circular procurement strategies, capitalise on shared knowledge and resources, and accelerate the transition to a more sustainable and circular economy.

This example shows that circular procurement goes beyond individual departments and requires close collaboration within government organisations. The CityLoops project is a prime example of successful collaboration among municipalities, procurement agencies, waste management authorities, and research institutions. Through strong partnerships, CityLoops has effectively integrated circularity into public procurement processes, promoting knowledge transfer and shared objectives. Furthermore, collaboration and networking with other municipalities, regional organisations, and relevant stakeholders enhances the impact of circular procurement efforts. By exchanging experiences, sharing lessons learned, and disseminating best practices, municipalities can accelerate progress and collectively address common challenges. Collaborative initiatives leverage pooled resources and influence to drive systemic change and create an environment conducive to circular procurement.

4. From pilot to practice

Construction site in Copenhagen, Denmark



This chapter delves into the key takeaways and challenges that can arise when scaling up circular procurement practices. While the adoption of circular principles in construction and bio-waste projects is essential for achieving sustainability goals, it is not without difficulties. Understanding the hurdles and obstacles that hinder the widespread implementation of circular procurement is crucial for developing effective strategies to overcome them.

The transition from pilot projects to mainstream adoption brings forth various challenges. This section aims to explore these challenges and shed light on the complexities associated with scaling up circular procurement practices. By identifying the barriers and limitations, stakeholders can better navigate the path towards achieving large-scale circularity in the bio-waste and CDW sectors.

Knowledge sharing with experienced organisations: Engaging and sharing knowledge with organisations experienced in material passports and closing material loops is highly recommended. Even if these organisations are not currently involved in construction or bio-waste management processes, their expertise and knowledge can greatly contribute to successful implementation. Leveraging their insights and best practices enhances the effectiveness and efficiency of circular procurement initiatives.

Setting Objectives for Circular Principles: Prior to tendering, it is recommended that the municipality sets objectives for the specific circular principles they wish to incorporate in the construction project. These objectives can be developed in collaboration with the people that are focussing on sustainability or circularity. Concrete targets, such as CO₂ savings and the use of recycled, valorised, or reused materials, can be defined. Transparency and communication of these objectives among all parties involved in the process and across the value-chain are essential, and incentive schemes can be utilised to motivate the advisors and contractors.

Stakeholder Engagement: Involving stakeholders throughout the co-design process is vital for their sense of ownership and responsibility. By making stakeholders active participants, their perspectives and insights become invaluable assets for driving sustainable change within their organisations. This inclusive approach fosters cooperation and creates advocates who can champion circular principles and promote a culture of sustainability.

Standard circular building specifications: Taking the example of **Apeldoorn**, they used a general document with all the circular requirements you can think of in construction. Similarly, for bio-waste, you could set up a document with known practises on reducing and handling these waste streams. By creating these types of documents where you keep track of what has been done or what you can do, you will make it easier for upcoming projects to implement circularity. To do this, you can think of adjustable requirements, criteria, or contracts.

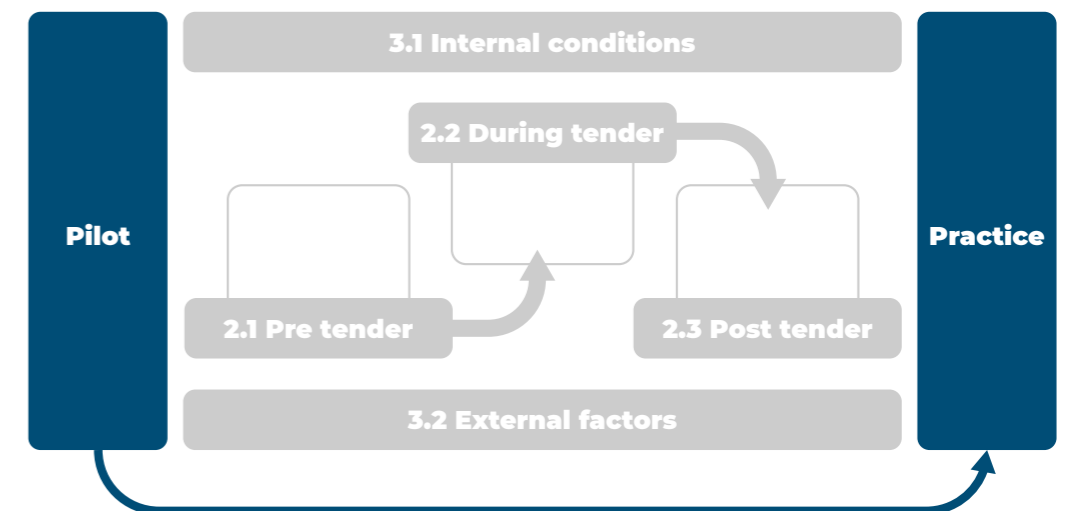
Challenges with Recycling and Reuse: Working with recycled and reused building materials presents practical challenges due to insufficient testing, the perceived unsafety, and the relative novelty of construction processes associated with these materials. To address these practical issues in future projects, the following steps can be taken:

- ➔ **Research and testing:** By gaining a better understanding of these materials, their limitations can be identified and strategies for mitigating potential risks can be developed.

- ➔ **Knowledge sharing and early collaboration with stakeholders:** Encouraging collaboration among stakeholders, including researchers, industry experts, and construction professionals, can foster knowledge sharing and exchange of best practices. Which can lead to the development of guidelines and standards for using recycled and reused materials effectively.

Market-level transformations: European public tendering rules can pose challenges when trying to engage contractors in the co-design process. For instance, when a city municipality wants to involve construction companies in the early design phase of a sustainable urban development project, the strict procedural requirements of public tenders limited the ability to collaboratively brainstorm innovative design solutions. The predefined selection criteria and bidding procedures often favour well-defined proposals, making it difficult to explore creative co-design approaches that could lead to more sustainable and efficient outcomes. This highlights the need for broader market-level transformations, where efforts extend beyond municipal initiatives. It is crucial to collaborate with policymakers and advocate for changes in regulations and legislation to create an enabling environment that encourages circular procurement practices. By addressing these market-level barriers, governments and cities can effectively leverage the private sector's expertise and resources to drive circular initiatives.

The diagram refers to the transition from pilot to practice after implementing circular procurement.



4. From pilot to practice

5. General conclusions and recommendations

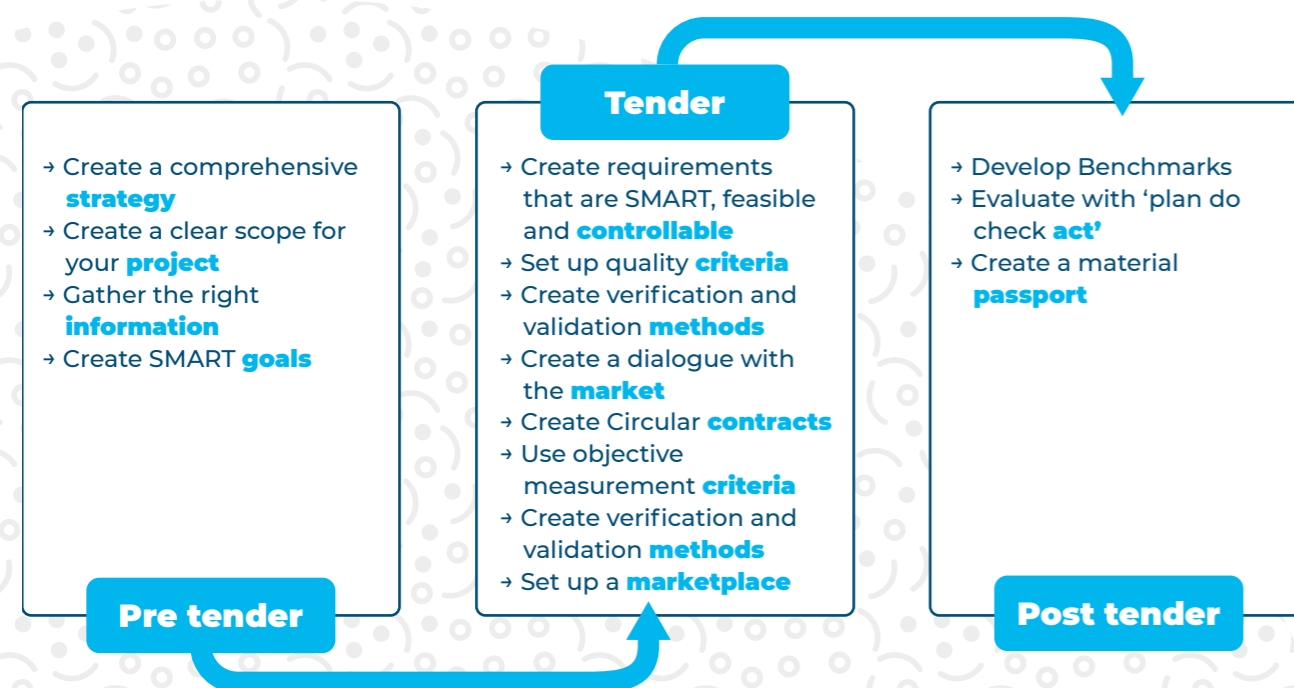
The CityLoops project offers valuable insights into the circular economy and waste management in urban settings, emphasising the potential of integrating circular principles into construction, procurement and efficient bio-waste management. This approach not only reduces waste and conserves resources but also tackles carbon emissions and biodiversity loss.

Beyond its environmental benefits, circularity is also an economic opportunity. Collaboration is key to achieving urban circular economies. By adopting circular procurement practices and endorsing sustainable waste management, cities can accelerate the transition towards a circular economy and contribute to sustainable development goals.

From pre-tender to post-tender

As we conclude our exploration of circular procurement for a sustainable future, we have traversed a comprehensive journey of incorporating circular practices into procurement processes across different project phases. From establishing

foundations during pre-tender considerations to navigating post-tender considerations, our insights provide a practical roadmap that ensures circularity throughout a project's lifecycle. This is visualised in the figure below.



Additionally, it is crucial to highlight the importance of adapting strategies to the distinct waste streams, particularly bio-waste and construction and demolition waste (CDW). By recognising and addressing the unique challenges and prospects

presented by each waste type, cities and stakeholders can make well-informed choices aligned with circular principles, fostering environmental and social responsibility.

The internal conditions and external factors

Mainstreaming circular procurement hinges on cultivating internal conditions that nurture a sustainable environment within local government organisations. Collaboration flourishes in an atmosphere of trust, transparency, and cooperative problem-solving, extending to partners. Empowering the workforce with a deep understanding of circular economy principles and sustainable procurement strategies facilitates informed decision-making. Organisational unity, from top-tier leadership to all contributors, magnifies the impact of circular practices. Thoughtful allocation of resources towards circular products, technologies, and infrastructure demonstrates a commitment to forward-looking investments. Aligning policies and governance structures with sustainable development goals sets a clear direction for integrating circularity into decision-making processes.

External factors play a pivotal role in establishing a collaborative ecosystem for successful circular procurement practices. Regulatory frameworks and incentives act as drivers by shaping policies that promote circular approaches. Stakeholder engagement and awareness are central to this ecosystem, with active involvement fostering a sense of ownership and advocacy for circular principles. Global agreements like the Sustainable Development Goals (SDGs) and the Paris Agreement provide a framework, where circular procurement can be aligned with these broader sustainability objectives. Economic incentives, such as grants, subsidies, and tax breaks, attract businesses towards circular procurement, blending financial gains with long-term benefits. The synergy of stakeholder collaboration, including researchers, industry experts, and construction professionals, generates a collective sharing of best practices and solutions.

From pilot to practice

Collaboration with experienced organisations enriches the effectiveness of circular procurement by providing insights into material passports and loops. Defining circular objectives in collaboration with sustainability experts establishes a clear direction, fostering accountability and alignment through transparent communication. Stakeholder engagement through co-design fosters ownership and advocacy for circular principles, resonating within and beyond the organisation. The development

of comprehensive circular requirements documents streamlines the integration of circularity in future projects, serving as repositories of best practices. Overcoming challenges linked to recycling and reuse necessitates research, testing, and collaborative efforts to develop effective guidelines and standards. Addressing market-level barriers requires collaboration with policymakers to advocate for changes in regulations, fostering a supportive environment for circular procurement.

The other CityLoops handbooks, instruments and experiences

The CityLoops project has developed a series of handbooks, toolkits and resources to help local government practitioners, including waste managers, urban planners, environmental protection officers, procurers, and politicians

better understand how they can “close the loop” in Construction and Demolition Waste (CDW) and biowaste. All these resources can be found on the [CityLoops website](#).

The circular procurement toolkit

The circular procurement toolkit has been specifically designed to assist cities in implementing circular procurement strategies for managing construction and demolition waste and bio-waste more sustainably. This comprehensive toolkit presents an array of tools utilised by cities in the CityLoops initiative for circular procurement practices, offering a

concise explanation of the functionalities of each tool; insights into when and how to best utilise each tool; the purposes of each tool, and examples of where these tools have been successfully implemented across various urban contexts.

The toolkit can be found [here](#)

The CityLoops replication packages

To learn more on what has been achieved over the four years of the CityLoops, replication packages have been produced with detailed information, available on [CityLoops' website](#).

Each replication package relates to a specific topic. For each, you will find the instruments developed all along the project, as well as reports on the cities' experiences.

The CityLoops circular procurement replication package

This replication package describes how public procurement activities have been used strategically to support the CityLoops demonstration actions. By digging into the different procurement strategies cities have used (such as criteria and clauses in tenders, innovation market, etc.) in each specific context,

it outlines how procurement could be a tool alongside more traditional policy instruments for shifting towards circularity.

The circular procurement replication package can be found [here](#)

The circular bio-waste management handbook for local authorities

The circular bio-waste management handbook is intended for a diverse audience of local government practitioners, including waste managers, urban planners, environmental protection officers, procurers, and politicians seeking a deeper understanding of the subject. Supported by various tools and methodologies and illustrated with concrete examples, the

handbook is divided into two main sections. The first section focuses on how to implement circularity, while the second centres on enabling circularity, with a specific emphasis on bio-waste and biological cycles.

The handbook can be found [here](#)

The European handbook on promoting circular construction for local and regional governments

The European handbook on promoting circular construction aims to bring the knowledge, experiences, tools and results of CityLoops to other cities in Europe and to contribute to the further implementation of the circular economy across the continent. The handbook highlights the role that public authorities and governance approaches play in implementing a circular construction strategy. Following the different steps of the value chain that may be encountered

in a circular construction project, it fleshes each of them out by emphasising how they can be rethought and adapted to meet circularity practices. It also gives an overview on how beneficial circular practices could be with regards to the economic and environmental perspectives and how local authorities should proceed to influence this market shift.

The handbook can be found [here](#)

The Construction/demolition procurement guidelines

This guidance presents a consolidated overview of the construction and demolition waste (CDW) procurement guidelines produced by each of the cities for their demonstration projects. The individual City-based plans are attached in their original languages and the overview guidance

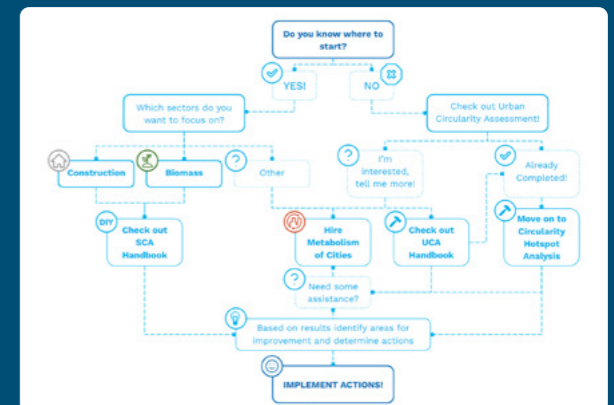
brings together key procurement-related aspects for use in replication and scale-up within the cities, wider replication regions and elsewhere.

The guidelines can be found [here](#)

The Construction/demolition procurement guidelines

The **Handbook for the Urban Circularity Assessment (UCA)** is meant to introduce and to provide practical, hands-on description of the UCA steps. It builds on experiences and examples of cities that have already conducted the UCA within CityLoops. The UCA is a combination of an urban material flow and stock accounting method and indicators that evaluate the “circularity of a city”.

The handbook can be found [here](#)



Useful resources

Many other organisations and EU-funded projects have developed reports, training materials and other useful resources on circular economy and circular public procurement. This non-exhaustive list of relevant resources can help you to dive deeper into specific topics.

Initiative/Document/Project	Description
On Circular Economy in Cities	
The European Circular Cities Declaration	The European Circular Cities Declaration is designed to help accelerate the transition from a linear to a circular economy in Europe, and thereby create a resource-efficient, low-carbon and socially responsible society. It aims to: a) Allow local and regional governments across Europe to communicate their commitment to supporting the circular transition, b) Provide a shared vision of what a "circular city" is, c) Underline the critical role which local and regional governments need to play in making this transition happen, d) Establish a community of committed organisations to share their experiences, challenges and successes.
Circular Cities and Regions Initiative	<p>Launched and funded by the EU as part of the Circular Economy Action Plan, the Circular Cities and Regions Initiative (CCRI) focuses on implementing the circular economy across Europe's cities and regions.</p> <p>The CCRI aims to increase synergies among projects and initiatives, disseminate relevant knowledge, and give greater visibility to best practices. Combining this knowledge sharing with technical and financial support, it offers comprehensive support to stakeholders across Europe's cities and regions.</p>
The Circular City Centre	<p>The Circular City Centre (C3) is a competence and resource centre within the European Investment Bank, which aims to support EU cities in their circular economy transition. The C3 can help cities address many of the linear problems they struggle with today, and make their cities more regenerative, resilient, clean, liveable and attractive to both citizens and companies.</p> <p>The Centre has been established with the support of the European Commission through the European Investment Advisory Hub to advance circular action in cities, including facilitating access to advisory and financing for circular projects.</p>

Initiative/Document/Project	Description
On Circular Public Procurement	
Public Procurement for a Circular Economy: Good practice and guidance Author: European Commission, ICLEI Date: 2017	This guidance on circular procurement provides an introduction to the European policy framework and practical guidance to those involved in public procurement decisions. It also includes good practice experiences from across Europe demonstrating how circular economy principles are being employed in public procurement.
Module 5: GPP and the Circular Economy Author: European Commission, ICLEI Date: 2019	As part of its GPP Training Toolkit (2019), the European Commission has developed a module on the circular economy. It provides practical guidance to public purchasers for using GPP to support the transition towards a circular economy.
Circular Procurement in 8 steps Author: Copper8 Date: 2018	This book provides a practical 8-step approach to integrate circular economy principles into a procurement process. Starting with the 'why' of circularity, the following steps include internal collaboration, procurement procedures, developing criteria, and contract management. The book includes a range of case examples from the Netherlands.
Circular public procurement: a framework for cities Author: Ellen MacArthur Foundation Date: 2022	The Ellen McArthur Foundation (EMF) has produced a circular public procurement framework that can help local governments adopt a more circular approach to public procurement. As public procurement processes vary across different city environments, the framework is designed to be adapted to local contexts and realities. The framework is divided in four parts. The first section focuses on how to create the necessary conditions for setting up and identifying opportunities for circular tenders. It is followed by sections on developing circular criteria, running a circular tender, and mainstreaming circular public procurement in the organisation. Each of these sections feature questions and actions city officials need to consider when going through a circular procurement process, examples of how other city governments around the world have implemented circular procurement practices, and resources developed by the EMF and other organisations to further explore the topic.
Circular Procurement Author: Circular Flanders	This website provides a series of tools to implement circular procurement, such as a 7-step framework, a circular ambition chart, case studies and tools.
Circular Procurement Transformation Guidance Author: Zero Waste Scotland, ACR+, Circular Flanders – Interreg NSR ProCirc project Date: 2022	This guide is specifically written for procurers and related roles. It provides a general introduction to the field of circular procurement. It guides you towards the many available resources and helps you determine which ones are relevant to your specific situation. Throughout this guide, excerpts from the Interreg NSR ProCirc pilots are used for illustration. Additionally, it provides a relevant selection of circular procurement tools that have been collected during the Interreg NSR ProCirc project:
Procurement Transformation Canvas and Workshop Manual Author: Interreg NSR ProCirc project Date: 2022	<p>The Procurement Transformation Workshop Manual supports procurers in organizing a workshop where they can identify their key focus areas while rethinking their procurement processes and integrating circularity into their procurement department. The guide is designed to assist procurers in the process of implementing circular procurement in the organizational business strategy.</p> <p>The guide includes a Procurement Transformation Canvas, a tool inspired by the customer journey in marketing, serving as a circular procurement journey that helps organizations decide how circularity can be implemented in their own business strategy.</p>
Procurement toolbox Author: Interreg NSR ProCirc project Date: 2023	The Circular Procurement Toolbox is based on existing tools and methodologies to support procurers. It includes original tools and methods that have been collected and improved throughout the project based on practical experience. When choosing a tool, it is important to consider the context of your organization, the level of circularity, the product category, and the desired goal. The toolbox provides a list of tools that can be filtered based on the product category, stage of procurement, and other specific parameters to select the most suitable tools. Additionally, the toolbox includes short presentations and explanations of the available tools, allowing users to determine which tool best fits their specific situation.

Initiative/Document/Project	Description
On Circular Public Procurement	
Best Practice Report: Circular procurement Author: Sustainable Global Resources Ltd, Danish EPA – SPP Regions (Sustainable Public Procurement Regions) Project Consortium Date: 2017	With the aim of offering inspiration for transitions to circular procurement, this report provides examples of circular procurement models, outlines the multiple benefits of circular procurement, and points readers to case studies of successful examples in practice.
Lessons learnt from the procurement pilots in the Circular PP Author: Interreg Baltic Sea Region Circular PP Project Date: 2020	As part of the Circular PP project, the cities of Aalborg, Malmö, Smiltene, and Pļaviņas piloted innovative new approaches to buying circular goods and services between 2017 and 2020. The report outlines the main results and lessons learnt from these six public procurement pilot schemes.
Recommendations to national policy-makers on CircularPP Author: Interreg Baltic Sea Region Circular PP Project Date: 2020	The Circular Public Procurement (CircularPP) project, supported by the Interreg Baltic Sea Region programme, has published Recommendations to national policy-makers on circular public procurement, including the. For example, local pilots of procurement of circular products and solutions should be encouraged, as municipalities play an important role in implementing circular economy activities and can promote the use of circular criteria.
The PROCURA+ Network Author: ICLEI	Procura+ is a network of European public authorities that connect, exchange and act on sustainable and innovation, as well as circular procurement. The network is managed by ICLEI – Local Governments for Sustainability. ICLEI Europe provides advice, support and publicity to any public authority that wants to implement sustainable and innovation procurement. The PROCURA+ Network lists a number of case-studies about circular procurement approaches and strategies trialled by its participants.
On Circular Procurement in Construction	
Stimulating demand for circular construction skills – a guide for public authorities Author: ICLEI – BUS-GoCircular project Date: 2023	The EU-funded BUS-GoCircular project aims to address and overcome the challenges of stimulating demand for a circular construction skilled workforce, along with the hands-on capacity building to increase the number of skilled professionals within the workforce across the value chain. Local and regional governments can use a wide range of policy levers to stimulate this demand. Through good practice and replicable examples from Europe and beyond, this document aims to raise awareness among practitioners and policymakers about their ability to promote a more circular construction sector and upskill professionals. It also highlights the various levers at the disposal of local and regional governments and public administrations to support this transition.
Training materials for public procurers – How to procure circular construction skills? Author: ICLEI – BUS-GoCircular project Date: 2023	This training material aims to help public procurers and policymakers better understand how they can stimulate demand for circular construction skills through public procurement. This slide deck can be used as a self learning tool, with links to other resources to learn more about the topic. This slide deck can also be used and adapted as needed to help to raise awareness among your colleagues and partners on how they can promote circular construction skills.
Implementation of circularity, whole life cycle carbon and life cycle costing in public construction projects Author: Irish Green Building Council (IGBC) – CIRCULARlife project Date: 2022	This handbook presents some of the key green indicators that should be applied within the procurement of public construction projects in addition to the energy efficiency requirements in Building regulations. These include Circularity, Whole Life Carbon assessment and Life Cycle Costing. It explains why these are important to integrate in projects, and how there is now a standardised EU approach to the application of the indicators through the EU framework for sustainable buildings: Level(s).

Initiative/Document/Project	Description
On Circular Procurement in Construction	
Using Public Procurement to Incentivise Upskilling – Best Practice Guide Author: Irish Green Building Council (IGBC) – BUS League project Date: 2022	This report presents some examples and best practice of how public procurement can be used to incentivise (directly and indirectly) energy efficiency upskilling in the construction industry. By presenting successful case studies, that are fully compliant with EU tendering rules, it is hoped that this document will inspire more public bodies to use these tools to drive upskilling.
Integrating reuse in large-scale projects and public procurements Author: Rotor and Bellastock – Interreg NWE – Facilitating the Circulation of Reclaimed Building Elements (FCRBE) project Date: 2022	This guide is one of the outcomes delivered by the partners of the Interreg NWE project Facilitating the Circulation of Reclaimed Building Elements (FCRBE). This guide is a tool aimed primarily at building owners. It presents several routes to integrate the principles of reusing building materials in construction and renovation projects. The proposed strategies are adapted to the development of public building projects. They are in line with public procurement regulations. However, the general principles described here are also applicable to private contexts and to smaller scale projects, which are generally less constrained in terms of procedures. The main principles can also be transposed to other types of work such as public space developments, landscape infrastructure, etc...
Strategies and methods for implementing circular economy in construction activities in the Nordic countries Nordic Council of Ministers 2020	The aim of this study was to identify and present cases and experiences from the implementation of circular economy concepts at the local level in the Nordic communities with a focus on construction, renovation and demolition. Information was mainly collected from Denmark, Finland and Sweden and to a limited extent from Norway. The project evaluates how the national strategies in the Nordic countries have an influence on the implementation of circular economy concepts at local levels.
Evaluating the technical performance of reclaimed building materials Author: Belgian Building Research Institute and Centre Scientifique et Technique du Bâtiment (CSTB) – FCRBE Project Date: 2021	This is one of a series of seven booklets that have been produced to serve as a taste of what the FCRBE project aims to achieve. The subjects span the broad spectrum of reuse, covering considerations before, during and after with useful information to guide and inspire working with reclaimed materials. The booklets also highlight environmental benefits, clarify grey areas and frequently asked questions regarding best practices, whilst sparking curiosity for a future where use is reuse.
Sustainable construction guidelines for public authorities – A circular economy perspective Author: ACR+ Date: 2019	This study is meant to describe some relevant instruments that local and regional authorities can implement to trigger, make durable and replicate sustainable circular economy processes in the construction sector. The document is divided into two main parts. The first one refers to an overview of what the sustainable construction sector stands for, starting from the current state of play and moving to the circular economy principles. The second part introduces approaches, principles, and examples. Boxes with good practices and experiences on specific topics turn the narrative into concrete examples.

Initiative/Document/Project	Description
On Circular Procurement and Bio-waste	
<p>StratKIT: StratKIT Platform – Sustainable public procurement and catering network Author: Interreg Baltic Sea Region StratKIT project Date: 2021</p>	<p>The StratKIT project built a path for more sustainable public catering services by addressing relevant procurement strategies in the Baltic Sea region. StratKIT brought together public authorities, catering service providers and researchers to jointly address food waste. The project used the so-called tree framework model offering a modifiable visualisation of the national situations. It was constructed in close cooperation with relevant stakeholders in six countries to display how the catering service is embedded in the regulations, business administration, and actual operations. With the help of this method and within the strong network of different stakeholders from different regions, the project managed to develop a needs-based practical toolkit and an online open knowledge platform for sustainable public catering.</p>
<p>Preliminary contract and financial assessment model for public procurement of innovation in the waste sector Author(s): PPI4Waste Project Date: 2018</p>	<p>As part of the PPI4Waste project, this report aims at defining contract models and financing modelling of different approaches for public procurement of innovation in the waste sector. Both parts are absolutely related, because if some contracting authority wants to buy some product, work or service will have to pay attention not only in the contract, but also in the financial model. Otherwise it will be very difficult for him to achieve their objective in a successful way.</p>
<p>Strategic Guide for Public Sector Food Procurement (PSFP) Author: University of Edinburgh Business School, Strength2Food project Date: 2021</p>	<p>To help practitioners gain a tighter grip on the production, procurement, distribution and delivery of meals in the public sector – to schools, care homes, hospitals and prisons – building in simple practices that offer the greatest positive impact, research teams in five countries working on the European Union Horizon 2020 project ‘Strength2Food’ undertook an in-depth investigation of ten primary school meals services, examining their food procurement and catering activities and measuring their sustainability outcomes. Although modelled on schools catering, the findings reveal good practice models for all those involved in the commissioning, production, procurement and delivery of public sector meals which offer the greatest opportunity to positively impact customer nutrition, local economy and enduring sustainability within the service.</p>
<p>How together we can make the world’s most healthy and sustainable public food procurement Author: WHO Europe Date: 2022</p>	<p>The WHO has developed a manual written by a public procurement officer for public procurement officers to guide them in procuring healthy and sustainable food. This manual is a comprehensive resource that covers all aspects of procurement and guides the procurement officer in adopting procurement practices that promote healthy and sustainable diets. It also includes case study examples to showcase best practice and demonstrate how each stage can be managed.</p>



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Abstract	This document gives an overview on what has been done by the cities from the CityLoops project on Circular procurement. Furthermore, it presents conditions and methods to implement circular procurement in small to medium sized municipalities.
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CityLoops is an EU-funded project focusing on construction and demolition waste (CDW), including soil, and bio-waste, where seven European cities are piloting solutions to be more circular.

Høje-Taastrup and Roskilde (Denmark), Mikkeli (Finland), Apeldoorn (the Netherlands), Bodø (Norway), Porto (Portugal) and Seville (Spain) are the seven cities implementing a series of demonstration actions on CDW and soil, and bio-waste, and developing and testing over 30 new tools and processes.

Alongside these, a sector-wide circularity assessment and an urban circularity assessment are to be carried out in each of the cities. The former, to optimise the demonstration activities, whereas the latter to enable cities to effectively integrate circularity into planning and decision-making. Another two key aspects of CityLoops are stakeholder engagement and circular procurement.

CityLoops started in October 2019 and will run until September 2023.



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