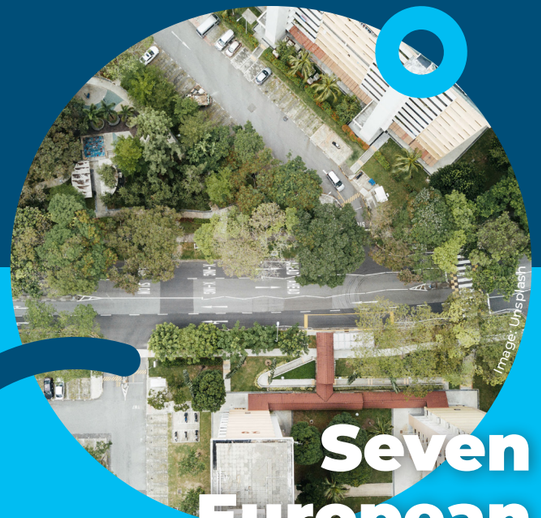
CITYLOOPS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Seven European cities pilot solutions to be more circular

cityloops.eu

CityLoops is an EU-funded project focusing on circular economy solutions for bio-waste and construction and demolition waste (CDW). Høje-Taastrup and Roskilde (Denmark), Mikkeli (Finland), Apeldoorn (the Netherlands), Bodø (Norway), Porto (Portugal) and Seville (Spain) are the seven European cities that are to pilot a series of circular economy actions tackling construction and demolition waste, including soil, and bio-waste with the aim of achieving material circularity. The cities will implement ten demonstration actions and test over 30 new tools and processes as part of CityLoops. 28 partners have joined forces in this EU-funded project coordinated by ICLEI – Local Governments for Sustainability, which started in October 2019 and will run until September 2023.

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The waste streams

Construction and demolition waste, including soil

CDW is the most significant waste fraction in Europe in terms of volume. According to Eurostat, in 2012 construction and demolition activities were responsible for 32% of all waste generated in the European Economic Area (EEA), with a further 27% from mining and quarrying. Resource consumption for buildings and infrastructure in Europe is highly material intensive, consuming between 1.2 and 1.8 billion tonnes of materials per annum in Europe (Ecorys).

Bio-waste

According to the European Commission, the European Union produces approximately 130 Mt of bio-waste per year, a number projected to increase by 10% by 2020. OW consists of organic fractions of municipal solid waste as well as bio-waste from commercial sources and green waste from public spaces. Overall, 68% of bio-waste produced annually in the EU consists of food waste originating from food manufacturing and packaging processes (39%), household scraps (42%), and restaurants/grocery stores (19%).

Get involved!

Is your organisation located in one of the CityLoops regions?
Join the collaborative learning networks.
Are you a European city or region that wants to become more circular?
Join as a replication zone.

- **Visit our website:** www.cityloops.eu
- **Subscribe to our newsletter**
- **Follow us on Twitter:** @CircularCityEU #CityLoops
- **Contact us:** info@cityloops.eu

The cities

Apeldoorn

After some small scale experiments with new fermentation techniques to process bio-waste from public spaces, the city wants to develop new processing methods and business models to upcycle biomass from its public spaces. The city also plans to renovate a street and pilot new treatment and reuse techniques for CDW in a co-creation process, involving citizens and local businesses in the redesign. Material passports will ensure material reuse in future construction projects. In CityLoops, Apeldoorn wants to create local economic benefit by keeping these valuable material streams in closed loops and creating new business models for them.

Bodø

Bodø is closing down its military airport and developing a new civilian airport, which will bring about a large expansion of the city over the coming decades. This offers a great opportunity to rethink its handling of construction and demolition waste and to pilot circular approaches. Within CityLoops, Bodø is developing a 3D visualisation tool for mass flows that will feed into a planning and decision-making tool and citizen engagement platform, demonstrating the attractiveness of the circular economy to stakeholders. These supporting instruments will then be implemented in the process the airport and new city development, making sure as much CDW as possible is kept in the material loop.

Høje-Taastrup

The city of Høje-Taastrup plans to develop a decision-making framework for public construction and demolition projects for all stakeholders involved in the construction and demolition value chain. The framework will help to identify possible material reuse cases during demolition, and soil storage points that keep the soil as close as possible to potential reuse locations. They want to use this framework to promote the reuse of demolition materials and to prevent the transportation of soil over long distances.

Mikkeli

Mikkeli wants to improve the recovery of nutrients from bio-waste streams for new products. Mikkeli also plans to improve the quality of bio-waste it collects from households by implementing new collection and sorting processes in collaboration with its citizens. Mikkeli currently recycles 85% of its CDW and uses the recycled material mostly for road and earthworks. Through CityLoops, it aims to substantially improve the rate of CDW reuse and recycling for demolition projects and to create new business opportunities. Mikkeli will develop various tools to support these goals, including a 3D modelling tool to track masses and a digital marketplace for used materials.

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Porto

Within CityLoops, the city of Porto plans to work with its social economy sector and the tourism sector to promote the reduction of food waste through procurement and smart decision making about food purchases. To do so, Porto will monitor bio-waste streams, design a decision-making tool for both sectors to prevent food waste, and support hotels in providing social institutions with donated food – closing the loop locally. Porto also wants to increase separated bio-waste collection in residential areas, where it will pilot new separate collection systems, and develop small-scale local circular economies: composting bio-waste and reusing the compost locally to grow food.

Roskilde

Roskilde is inspired by the Sustainable Development Goals (SDGs). It wants to close the CDW and soil material loop by implementing circular procurement and lifecycle assessment tools for key construction materials. The city is developing circular construction instruments such as a pre-demolition material audit and assessment of the material reuse potential, local material banks and procedures to increase the share of reused material in new construction. There are several development projects on the horizon in Roskilde in which these will be piloted.

Seville

Through its participation in CityLoops, Seville aims to expand and optimise the separated collection, treatment and valorisation of bio-waste. By analysing and modelling the current and future flows of household bio-waste, the city will install smart bio-waste collection bins and launch a campaign to encourage proper waste stream separation. By producing biogas from the collected bio-waste, Seville will reap the economic benefits of its activities. Seville also aims to increase the recycling rates of CDW by analysing current material flows and improving the location and design of “clean points” – recycling facilities for citizens’ CDW. The city will incorporate and test circular measures for the local reuse of CDW in the renovation of groundworks in some streets.

Support actions

Stakeholder engagement and evaluation
CityLoops is using a participatory planning approach involving relevant stakeholder groups through all project phases – planning & implementation, demonstration & evaluation, and replication/upscaling. An evaluation framework will be developed based around a series of circularity and sustainability indicators, to measure the success of the project in creating more circular cities.

Sector-wide and urban circularity assessment
CityLoops is developing a consolidated material flow and stock accounting methodology to assess sector-and citywide material stocks and flows. Data on these flows will be used to create an online decision support dashboard to enable cities to integrate circularity in planning and decision-making.

Circular procurement
Procurement can accelerate a shift to more circular products and business models. CityLoops is harnessing this potential to promote the local circular economy, through the procurements in the tool development and pilot actions, and by integrating circularity into the overall procurement.