



Cities in the Circular Economy - City of Tomorrow

How to use Circular Economy as a Planning tool in the Municipalities for strengthening capacity for systemic innovation



Why Cities and Circular Economy

Cities are increasingly embracing circular economy principles because:

Urban areas lend themselves particularly well to circular business models. This is due to the close proximity of citizens, retailers and service providers

A circular economy has benefits that are operational as well as strategic and can building capacity for genuinely transformative innovation at a systems level

Cultural trends and city lifestyles is playing a vital role in the transition - If the municipalities can get the people who are the entrepreneurs, creators and makers – the early adopters – interested, then Circular Economy tends to spiral and is picked up more broadly

The circular economy can shift the economic mix to increase the number of jobs and diversity businesses , create innovation and at the same time create more resilient cities with a lesser environmental footprint



How can Circular Economy work as a Planning tool in the Municipalities

Most municipalities have a vision and strategy for how they will develop in the future. Visions help shape direction and give identity in plans and policies. A good vision makes it clear what the administrations need to vision for when the efforts are to be designed in everyday life. For the individual targets in the municipality, specific goals can be set and indicators are set. Circular economy is a strategic overall view that can help exploit the potential of the municipality's vision.

The circular economic thinking helps innovate because the municipality is going to have a long term perspective and because it basically is about how things can be made easier, smarter, cheaper and more resource efficient

Work packages for the Cities in the Circular Economy

The project consist of the following main work packages which all are aiming to creating more competitive economy at district scale:

WP1 – **Mapping municipality-driven Circular Economy initiatives** and knowledge dissemination – led by C40

WP2 – **Municipal district as driver in the circular green transition** – led by Climate KIC

WP3 – **Circular Economy in utilities** – led by Veolia

WP4 – **Urban Refurbishment; focus on the construction and renovation** – led by City of Malmö

WP5 – **‘Circular Procurement’** – how to incorporate Circular Economy in public procurement – led by Helsinki Municipality

WP6 – **Circular strategy, planning and implementation on a district level** – Province of Utrecht

WP7 **Investigating the local urban circular economy’s role in stimulating business** – led by Cleantech Bulgaria



WP1 – Mapping municipal cases as drivers in the circular economic

Background: As a concept, Circular Economy is applicable to many systems and value chains – almost a limitless amount – within the urban environment; essentially at any point where a product cycle or waste stream ends. The applicability of Circular Economy to a system or value chain depends on the nature of the unutilized output and the market conditions. Under these variables, some value chains are more susceptible to CE than others.

Expected outcome: The delivery for this work package will include the identification of four specific city districts, which can be used to test and validate concrete CE initiatives, and the creation of an electronic platform to showcase at least 40 concrete municipality- or local government led Circular Economy examples from around the world.



Lead: C40

Support: Climate KIC

Advise; Ellen Macarthur
Foundation

WP2 – Municipal district as driver in the circular green transition

Background: The municipalities have a crucial role to play in the transformation toward a more circular economy. The municipality can take action by supporting locally rooted transitions, with small and medium-sized Companies by creating incentives to develop their business models and investments in a more circular direction.

Expected outcome: Copenhagen municipality will bring forward a CE Living Lab on district level in the South Harbour district, where the city will provide the concrete demonstrations of CE governance, support start-ups and fertilize local co-creation. Malmö City will bring forward a CE living lab on a district level at Segapark, where specific plastic related business models can be tested and validated.

We plan four roundtable discussions to form an action plan on how to effectively incorporate Circular Economy into municipal planning tools and strengthening their capacity for systemic innovation.



Climate-KIC

Lead: Climate KIC

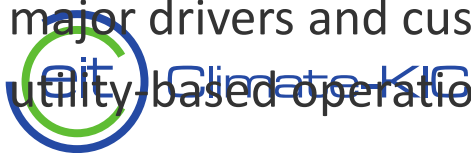
Support: Copenhagen and Malmö Municipality

Advise: Region central region Denmark

WP3 – Circular economy in utilities

Background: Public and private utility companies have knowledge that can actively engage with the CE concept, whilst also possess the potential to create CE-based synergies with other aspects of the urban environment. This therefore can place municipal utilities at the centre when production and consumption reconsidered through a focus on the entire value chain create a holistic green development

Expected outcome: WP3 will map emerging processing technologies, which enable the recycling and valorisation of urban water and biowaste into higher-value biobased products. Aarhus University will outline a short report documenting the performance test showing if it is feasible to convert residual biomass and plastic waste into renewable oil. In WP3 the Veolia led consortia will create a master class exploring how municipalities – in their role as major drivers and customers – are able to insert CE principles into their utility-based operations.



WP3 – Circular economy in utilities

Expected outcome: The work of the masterclass will outline two to three learning cases for the online portal (developed in WP2).

The Masterclass will create a two- three day intensive master classes each year, first one is expected to be executed in Q3 2018 and the second in Q2 in 2019. The masterclass will provide a ‘pool of knowledge,’ which will summarized fora section in the white paper about ‘Circular Economy in Municipal Utilities’.

The delivery for this work package will be the production of a Circular Economy in Municipal Utilities white paper section, as well as the Masterclass from which the information was sourced.



Climate-KIC

Lead: Veolia

Support: Aarhus University, Helsinki city?

Advise: Ellen MacArthur
Foundation/Kristiansand?

WP4 – Urban Refurbishment

Background: The municipalities are one of the country's largest constructor and build owner, fx. building new offices, schools, nursing homes, roads, parks, bridges and houses. The potential for rethink, reuse and recycling is at the same time high, as 1/3 of all waste in Europe is construction waste that could be a valuable resource. Here there is a need for the municipalities to take the lead in order to move the agenda.

Expected outcome: As in work package three, in work package four we intend to gather relevant stakeholders from the spheres of academia, city administration, and business s to come together in a series of workshops exploring how municipalities – in their role as major drivers and customers – are able to insert CE principles into their urban refurbishment operations. The delivery for this work package will be the production of a Circular Economy in Urban Refurbishment white paper, as well as the workshops from which the information was sourced.



Lead: City of Malmö
Support: Rockwool,
Advise; Central Region Denmark and DTU

WP5 – Circular Procurement

Background: In what is known as ‘circular purchase’, the entire product – or its components and raw materials – should be returned to the city or company of origin to either be reused, repaired or redeveloped into a new product. The latter can be done as direct recycling, refurbishment, reprocessing or recycling.

Expected outcome:

In work package five we intend to explore the potential for ‘Circular Procurement’ as a vehicle to enable increases in Circular Economy in the municipal operations, projects, and infrastructure. The work package will see the creation of a four to six-page policy paper Circular Procurement and an accompanying case catalogue of CE initiatives incorporated through Circular Procurement initiatives.



Lead: Helsinki Municipality

Support: Climate KIC, Ellen MacArthur Foundation and Copenhagen Municipality

WP6 – Circular strategy, planning and implementation on a district level

Background: Circular economic thinking is necessary for municipalities to get innovative when trying to make things easier, smarter, cheaper and more resource efficient. Work package six will address this challenge and provide concrete recommendations for city administrations seeking to accelerate the transition to a more Circular Economy with quantitative targets and specific efforts within procurement, building, waste, sewage and utilisation of surplus capacity.

Expected outcome: The WP6 will create a circular economy city charter/white paper about how cities “Effectively incorporating Circular Economy into municipal planning tools and strengthening their capacity for systemic innovation” opportunities.



Lead: TNO

Support: Copenhagen, Helsinki and Malmö Municipality and Central region Denmark

WP7 – Investigating the local urban circular economy's role in stimulating business

Background: WP7 will collect best practice examples of circular business models, which will be presented as cases in the online platform. The purpose is to inform and inspire interested readers, in particular companies and SMEs, that aspire to examine the potentials of the circular economy..

Expected outcome: The intention of this WP7 is to investigate the business potential between SME and spin-off companies and the involved city administrations in relation to their supply chain and procurement, invisible to the end-user, and how to build relationships with end-users through new circular offerings..



Lead: Cleantech Bulgaria

Support: Climate KIC Accelerator
Others?

Expected Output of the CE Charter for Municipalities

The benefits of a circular economy for municipalities are not merely operational but strategic and serve as sources of both efficiency and innovation. A multi-municipality stakeholder community of 6-8 Circular Economy Champions and 3 fast follower cities will be created with the purpose of taking lead of outline a practical CE Charter for Municipalities, the charter could consist of:

- 1) Put in place incentives that stimulate a municipalities to measure, benchmark and improve their resource efficiency systematically
- 2) Identify benefits and catalyze enabling mechanisms how municipalities can inspire and work together to make the best use of the waste and by-products they produce
- 3) Assess the economic benefits from enhanced innovation
- 4) Outline recommendation how municipalities incorporated circular economic thinking in procurement
- 5) Create a online education platform hosting finding and case collection
- 6) Catalog of concrete case showing how cities in the circular economy create growth
- 7) Roadmap for scalling out CE charter for second tires municipalities

Climate KIC Consortium partners

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Climate KIC Consortium partners

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The EIT is a body of the European Union

What is Cities in the Circular Economy

Cities in the Circular Economy offers a knowledge exchange platform for both pioneering and fast following cities which are embedding circular economy into their urban operations.

A urban circular economy is one in which cities keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end their life. It is a more efficient and environmentally sound alternative to the traditional linear economy in which we make, use and dispose of resources

Cities in the Circular Economy is initiatives aimed at facilitating collaboration and learning more broadly, between interested in the businesses, researcher and decision makers sphere in innovating for a circular and more resilient future

Climate-KIC

The EU's largest public private partnership addressing climate change through innovation to build a net zero carbon economy.

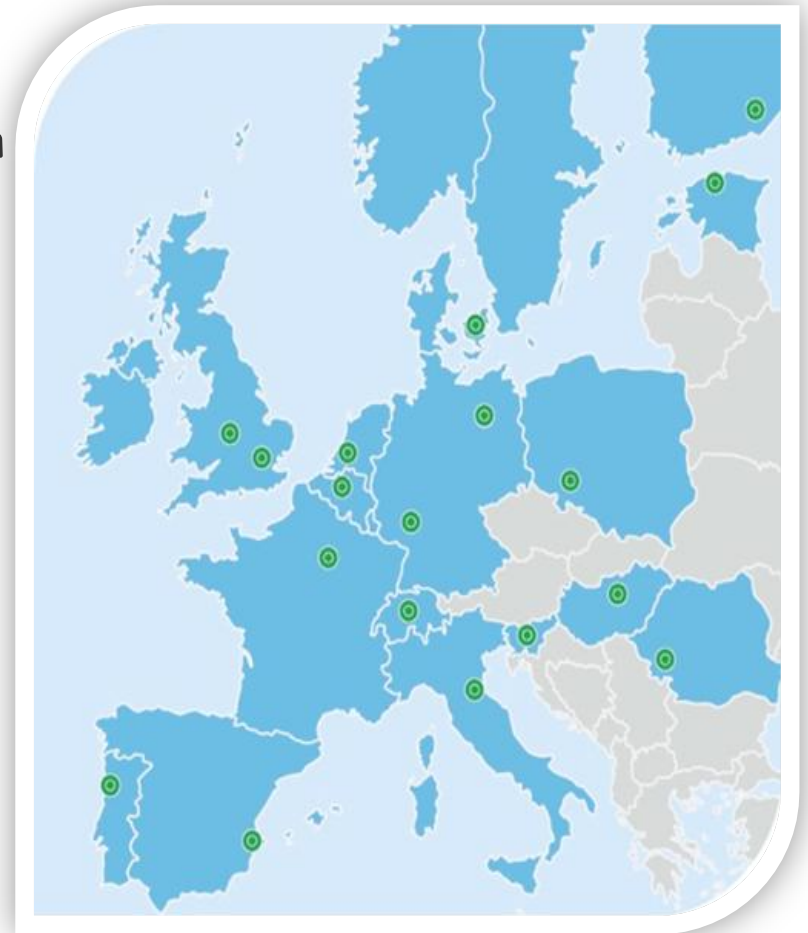
We educate the next generation of **Climate entrepreneurs and change makers**

We run the **world's largest climate change start-up accelerator**



Climate-KIC

We bring together partners on



Climate-KIC - our Partners



What is Climate-KIC?

