



# London Climate Innovation Challenge





# London Innovation Challenge – Circular Economy

The focus of the London Climate Innovation Challenge 2016 will be the circular economy. Start-ups, SMEs, researchers and other experts are invited to apply to join an open innovation day to develop solutions to help London reach its goals for adopting circular economy approaches to drive economic value.

## The Challenge

The London Climate Innovation Challenge 2016 has two main aims:

- Use an open innovation process to identify solutions to support London's goals for developing a circular economy in two priority areas – food and the built environment
- Help energise a London cluster around this challenge by involving start-ups, larger businesses, researchers, investors, public bodies and communities working in collaboration.

The challenge consists of two stages. An open, on-line call for proposals. The best entries from the on-line call will be invited to attend a one-day event in London on **6 December** to further develop their proposals and pitch to a jury.

The challenge offers the following opportunities to participants:

- Support the development of London's efforts to develop a circular economy
- To compete for 2 prizes of £20,000 to support the development of your solution
- To share your ideas and ambitions with a group of peers with similar interests
- Positive PR for your organisation and brand recognition through various publicity materials produced for the event
- Access to a wide range of businesses, organisations and stakeholders already leading innovation within the circular economy
- Potential follow-on support from new investment and innovation programmes delivered by LWARB and Climate-KIC. For instance, LWARB is planning on launching a new dedicated circular economy accelerator programme in early 2017. LWARB is also investing in early stage circular economy venture capital funds seeking to develop promising circular models.

## London

The Mayor of London has asked the London Waste and Recycling Board (LWARB), in conjunction with the private sector, to develop a circular economy route map for the city to 2036. LWARB is also developing a number of other programmes that will marry investment and policy to help foster innovative circular economy models.

For instance, an Accelerator programme dedicated to the Circular Economy is being designed, LWARB is investing in venture capital funds dedicated to the sector and is about to launch a business support service for any startup or SME looking to develop circular business models. The ambition of LWARB and GLA is for London to become the world's leading exponent of circular economy thinking and practice. By moving to a circular economy, London could benefit by an additional £7bn GDP each year and create 12,000 net jobs by 2036.

## What is the circular economy?

London is growing fast – the capital's population is predicted to reach 10 million by 2050 and so the need to access appropriate products, housing, office space and critical infrastructure is increasing in importance. The circular economy, with its emphasis on design for durability and modularity, utilizing under used assets, sharing and products as services, provides a sustainable and profitable solution to the challenges of this population growth. A circular economy approach provides a sustainable and profitable alternative to the way our economy is currently structured.

At its heart, the circular economy is about value creation, not just elimination of waste. From a business perspective, the main driver is creation of economic value through harnessing innovation, technology and circular business models to create competitive advantage through new revenue streams, operating efficiencies and improved resilience in a resource constrained environment. However, it is also about creating long-term environmental, social and political value for everyone in society.

**Companies and startups embracing a circular economy approach will incorporate one of the following five business models into their operations:**

- Renewable inputs – shift to using secondary materials as the inputs for products;
- Recover value at end of life through effective recycling and composting/AD;
- Prolong product life – through maintenance, designing for durability, re-use and remanufacture of products and components;
- Positive PR for your organisation and brand recognition through various publicity materials produced for the event
- Sharing economy – share assets (e.g. cars, rooms, appliances) through sharing platforms;
- Products as services – sell access to products while retaining ownership of assets or dematerialise through ebooks or use of cloud servers.

This challenge will be focused on 2 sectors that have fundamental impact on London's economy and population – Food and Built Environment.





## Challenge 1: Food

### How can small business food outlets become more viable through elimination of food waste or more profitable use of waste streams?

Over 8 million tonnes of food is consumed in London annually. The food challenge facing London is to provide for the capital's growing resident, worker and visitor population in an efficient, affordable and sustainable way. Embedding circular economy principles into the food economy of the capital creates the opportunity to value food and drive financial and environmental benefits at a household, business and city level.

#### London is targeting:

- Reduction in food waste of 20% by 2025
- Ensuring that food surplus and food waste is used to its greatest potential for the people of London
- Ensuring that by 2036 no food waste is sent to landfill or incineration
- Encouraging community, urban and commercial food growing initiatives.

The FoodSave initiative demonstrated savings of £6,000 a year on average for single site small hospitality/ food retail businesses by reducing food waste at each stage of preparation and delivery. WRAP has estimated that finding innovative uses for food waste and diverting surplus could lead to a 42% reduction in waste. The majority of food waste is created in the dairy and meat sectors.

#### The main barriers to progress from a small business perspective are:

- Lack of knowledge and time and experience to deal with waste in a creative way;
- Lack of storage space to retain waste for other purposes
- Cost of waste collections – often hospitality sector businesses require specialist collection services (e.g. cooking oil, coffee beans) on a daily basis at great cost;
- Lack of technological development in bio-refining;
- Limited access to end markets for digestate from anaerobic digestion processes



## Challenge 2: Built Environment

**How can more effective use be made of reclaimed building materials – facilitating storage, re-use, exchange & logistics?**

In order to meet the growing population challenge, London will need to produce an additional 40,000 units of housing and 5 million m<sup>2</sup> of office space by 2030. In addition the ongoing infrastructure development such as Crossrail, the Thames Tideway Tunnel and Northern Line extension will see unprecedented levels of regeneration and local development. These projects generate a huge demand for new materials, while the corresponding demolition, clearance and excavation of existing buildings generates a huge amount of waste. At the same time, a number of perfectly viable buildings in the city remain empty or severely under utilised and in some instances have been out of public or commercial use for many years.

LWARB's vision is for London to be a centre for circular design and demonstrator projects as follows:

- Buildings designed for adaptability and to be disassembled at the end of their life;
- Buildings that use innovative products and technologies that enable circular models;
- Buildings being re-used or refurbished rather than demolished;
- Buildings deconstructed to enable maximum material re-use;
- Greater innovation to encourage improved functionality, performance and use from assets (e.g. predictive maintenance)

48% of all waste in London comes from construction, excavation and demolition – making better use of existing space is an imperative alongside more intelligent design of new buildings to allow disassembly, re-use, better maintenance, greater connectivity and lower energy consumption.

### About Climate-KIC

Climate-KIC is the EU's largest public private partnership addressing climate change through innovation to build a zero carbon economy. They run programmes for students, start-ups and innovators across Europe via centres in major cities, convening a community of the best people and organisations.

Climate-KIC is supported by the European Institute of Innovation and Technology (EIT), a body of the European Union.

### Timelines and next steps

**Submission deadline:** 22 November  
**Selected applicants notified:** 29 November  
**Open innovation event:** 6 December

**Note:** in an open innovation process, the exchange and discussion of ideas is important – both within your team, experts and with other participants. It is your responsibility to ensure that you protect your intellectual property.

### About LWARB

LWARB is a public body headed by the Mayor of London, dedicated to eliminating and managing waste within the capital, in conjunction with a number of stakeholders. LWARB is leading the development of a circular economy route map on behalf of the Mayor with the aim of turning London into a circular city by 2036.

In addition, LWARB is designing a number of investment programmes to support businesses to transition into or scale up circular operating models.

These programmes will be launched throughout 2017 to SMEs within London.

### Contact us

For queries relating to the challenges, email [Jason.Louisgouveia@climate-kic.org](mailto:Jason.Louisgouveia@climate-kic.org)

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## Work with us

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Climate-KIC is supported by the  
EIT, a body of the European Union