

PETERBOROUGH

DEVELOPING A MEASUREMENT FRAMEWORK FOR THE CITY AND LOCAL BUSINESSES

Tracking progress on a journey to full circularity by 2050



GOVERNANCE
Peterborough City Council

POPULATION
198,914

GDP
5.3 billion GBP

DENSITY
1,300 per km²

AT A GLANCE

THE INITIATIVE

Peterborough is committed to becoming a circular city by 2050. The Circular Peterborough Commitment brings together local partners who share the ambition to integrate circular economy principles in the city to drive economic growth and resilience, meet local needs, connect communities, and reduce environmental impact, including greenhouse gas emissions.

Tracking progress against their circular city ambitions is key to demonstrating benefits and building momentum. Peterborough is developing a three-pillared measurement framework composed of i) a Circular Economy Maturity Model that can offer a qualitative circularity tracker for businesses and the city, ii) a selection of Key Performance Indicators, and iii) a tracking of material flows in the city. Whilst it is still work in progress, Peterborough's in-house work has raised the city's profile nationally and internationally.

TIME FRAME

The Circular Peterborough initiative began in 2015, starting with the [Circular Peterborough Commitment](#), followed by development of the measurement framework via the 7 Rs in 2016, the launch of the [Share Peterborough Platform](#) in 2017, and in 2018-19 a consultation on draft [Plan and Performance Circular City Roadmap](#).

FOCUS AREAS

Circular Peterborough's measurement framework is designed to support both businesses and the city as they track their progress towards a circular economy, with a view to achieve full circularity by 2050. The framework includes both qualitative and quantitative measurement metrics.

- The quantitative focus includes economic growth, GHG emissions reduction, business awareness of circular economy principles and opportunities, waste reduction, and recycling
- The qualitative focus includes tracking behavioural, cultural and operational shifts

ORGANISATIONAL STRUCTURE

The [Circular Peterborough](#) programme is a key element of the city's Future Peterborough Programme. The latter is jointly run by Peterborough City Council and Opportunity Peterborough (a Council-owned not-for-profit economic development company). The alignment with the Future Peterborough Programme supports integration of circular economy principles into the smart city programme, as well as its economic development and inward investment activity.

Circular Peterborough has 1.5 full-time equivalent staff based within Opportunity Peterborough. They work to bring relevant sector and circular economy knowledge to the Council. Core to this is their convening of businesses, third sector organisations, and individuals from across the city.

FINANCE

In 2012, Peterborough was one of four UK Future City Demonstrators to be awarded a GBP 3 million grant from [Innovate UK](#), the country's innovation agency. Amongst other things, the grant helped the Circular Peterborough programme to emerge as a part of the city's Future Peterborough ambitions. The grant continues to contribute to Circular Peterborough's core costs, including staffing, software development and marketing as well as the development of the measurement framework.

Investigation of further funding opportunities to support the work of Circular Peterborough is ongoing. Drawing on the experience of commercialising Peterborough's Smart City Leadership Programme, the measurement framework should become a long-term replicable, scalable and potentially commercialised tool for small and medium cities similar to Peterborough.

OUTCOMES TO DATE

Circular Peterborough has found it is increasingly gathering partners around the goal of achieving a circular city by 2050. 'We're not becoming circular for the badge, we're becoming circular because it is helping us address real challenges in our city.' Circular Peterborough.

The programme has raised the city's profile nationally and internationally, and in 2019 it hosted the Future Circular Cities Conference, building on recognition gained at the 2015 Smart City Awards and its inclusion in the World Economic Forum's circular cities studies. The event attracted over 90 delegates, including national and international city representatives, businesses, and third sector organisations, eager to learn from best practices and investigate collaboration opportunities.

So far, almost 70 organisations have signed the Circular Peterborough commitment and over 315 users have registered on the Share Peterborough platform since mid-2017. This activity has led to 77 product or service shares, avoiding over GBP 2,141 in new purchases and landfill fees, and diversion of over 220kg of resources from landfill. Five circular economy workshops have also been held to harness learnings and raise awareness in the food and agriculture, manufacturing, service, and third sectors. Peterborough has also partnered with [University College London](#) and [Cranfield University](#) to further develop their indicator set, develop scenario plans for the city and support training opportunities for students.

THE JOURNEY

ORIGINS

Being able to track and measure progress has been an important component of Peterborough's work - not least as the work has helped to engage other city departments and local businesses and organisations. Since measuring progress of circular economy at a city scale is inherently complex, and Peterborough has needed to develop the model internally, its path has been one of innovation and discovery.

DEVELOPING THE THREE-PILLARED MEASUREMENT FRAMEWORK

Starting from its original 7 Rs Maturity Model, trials and testing have led to the emergence of a more diversified three-pillared framework.

Pillar 1 - A qualitative Maturity Model that helps businesses and the city track progress.

The Maturity Model was first developed through desk-based research in 2016. The model was designed to map and track local business activity against Circular Peterborough's 7 Rs (rethink, redesign, repurpose [reuse and share], repair, remanufacture, recycle, and recover) with a view to more circular use of materials. As a relatively new way of thinking about and tracking the activity of local business, the 7 Rs have first been used by local businesses to signpost how circular economy opportunities can work for them. Peterborough is

developing a 7 Rs Circular Business Guide and in 2019 early tracking data should emerge.

The testing of the 7 Rs also highlighted its limits. While it had the potential to work well for individual businesses, it would be limited as a measure of systemic change at city level. Circular Peterborough therefore adopted best-practice insights from risk forecasting and disaster analysis models which better show the interconnectedness and interdependence of actions. A Socio-Technical Systems Thinking (STST) framework will now provide the basis for the model that will track progress at the city scale. In 2018, the team used the framework to build a qualitative baseline measurement of circularity in the city, measured against key criteria outlined in the Plan and Performance Monitoring Framework. These include qualitative criteria in seven areas (people, culture, infrastructure, digital technology, processes and procedures, goals and metrics) that in time will become more quantitative.

Pillar 2 - Quantified Key Performance Indicators.

To develop quantitative measurements for circular economy inspired outcomes, Circular Peterborough turned to the existing Sustainable Cities and Communities ISO 37120 standard, which provides indicators for city services, quality of life, and smart and resilient cities. Peterborough selected quantitative measures that would be specific to measuring circularity in their city, such as in waste, transport and energy production.

This approach has allowed Peterborough to develop performance indicators that are generally already tracked by city administrators thereby making best use of the city's existing resources. These indicators will be tracked over a set timeframe, for example the amount of materials sent to landfill, resources recycled and the amount of energy produced from renewable sources, although Peterborough is looking to push beyond these traditional metrics. This work is ongoing and Peterborough plans to launch this second pillar in 2019.

Pillar 3 - Urban Material Flows. To develop a quantified picture of material inputs into the city and internal city material flows, Circular Peterborough will initially focus on the City Council's supply chain - identifying major providers of goods and services, and the nature, size and movement of related materials. As with pillar 2, Quantified Key Performance Indicators, Peterborough intends to capture the overarching trends in the period 2018-2021 to match the time frame of the Plan and Performance Monitoring Framework and obtain visibility on progress at the city scale.



REFLECTIONS

Building a community of understanding around circular economy principles and measurement.

The measurement of circular economy activity on an individual business basis is contingent on building up high levels of awareness and activity. This helps to both grow new circular economy practices in the city and uncovers pre-existing circular economy practices that weren't previously being recognised. Broad engagement across sectors increases awareness of the opportunities presented in a circular economy and has helped Circular Peterborough identify tools that can support local businesses - such as the development of the 7 Rs Circular Business Guide and the identification of metrics.

Selecting suitable indicators to start the process. One of the current challenges with measuring circularity is finding standardised, comparable indicators. By consulting the existing Sustainable Cities and Communities

ISO 37120 standard, Peterborough has selected approximately 75 commonly tracked indicators which makes comparisons to baseline possible, and creates visibility on progress towards a circular economy at a city scale over a given time period.

Collaborating closely with Peterborough City Council and learning through peer-to-peer networks. A close organisational link to Peterborough City Council enables Circular Peterborough to work towards integrating circular thinking into wider city economic development projects and policies and to draw on city data to baseline and track progress. While collaboration with a range of academic institutions, Innovate UK's Knowledge Transfer Network, and multi-stakeholder networks of businesses, third sector organisations, cities and governments helps to bring in new ideas, progress the Circular Peterborough initiative and measurement framework, and share this work with others.

FOR MORE INFORMATION

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