

Bradford District: Circular economy integral 'net-zero carbon by 2038' goals

The initiative

Bradford Council declared a climate emergency in January 2019, published a Sustainable Development Plan in 2020 and has set an aim for the district to be net zero-carbon by 2038. In order to achieve this, the Bradford Sustainable Development Partnership (BSDP) was established. The BSDP sits under Bradford's Health and Wellbeing Board and advises and monitors progress on:

- Reducing greenhouse gases;
- Improving other key environmental outcomes;
- Identifying and addressing climate, environment and related risks;
- Contributing to health, social inclusion and wellbeing issues;
- Developing a more circular economy (one which eliminates waste), productive and inclusive economy.



Figure 1: Key elements of Bradford's Economic Strategy 2018 – 2030

The BSDP aims align well with the Bradford District Economic Strategy, 2018 – 2030, which places sustainable growth as one of its central considerations (see Figure 1) and circular economy as a key part of

this: 'We will support progress towards a circular economy which focuses on extracting the maximum value from resources while in use and recovering and repurposing products and materials at the end of their service life'.

The scale of investment

Bradford Council's budget, agreed in February 2020, allocated £25 million to climate action including £1 million earmarked to contribute to circular economy project aims. This included £250,000 invested in waste management working with local businesses to reduce the volume of waste produced and reduce amount of waste going to landfill .

Circular economy is also integral to the Economic Recovery Plan, published in February 2021 in response to the impact of Covid-19 on the Bradford District. This Plan sets out actions needed to 'accelerate [Bradford's] recovery from Covid-19'. Included in the Plan is the construction of a 'Circular Economy Demonstrator' to encourage 'local businesses to invest in reprocessing of recycled or by-product materials and positioning the District as an exemplar of the circular economy in the UK' .

Key players: how the initiative emerged

The BSDP is a business-led organisation with members including Morrisons, Solenis, Incommunities, Keighley College, Airedale Hospital, Yorkshire Building Society, and Sunrise Radio, as well as from the City of Bradford Metropolitan District Council and the West Yorkshire Combined Authority. As well as aiming for net-zero carbon by 2038, the key drivers for the work of the BSDP are 'increasing the sustainability of communities and businesses by adapting to the changing climate, creating more sustainable homes and buildings and recognising

skills gaps to ensure the district is ready to capture opportunities in a new green economy’.

The Circular Economy Demonstrator is also under the remit of the BSDP and some of the same organisations were involved in the Bradford Economic Recovery Board, which developed the Economic Recovery Plan, including ‘a diverse and inclusive group of Council and business leaders, partner organisations and key stakeholders chaired by a senior academic from the University of Bradford’ . The drivers for this specifically are to ‘attract innovation funding and inward investment by making industrial space and infrastructure available – hosted by local businesses – and so reduce the investment barrier’.

Activities to deliver a Circular Economy in Bradford

Yorkshire Water is leading on the BSDP work around the circular economy with activities centring on their plans for Esholt Wastewater Treatment Works . The organisation intends to transform redundant land around the works to create a ‘model development of sustainable housing and industry’ . The Esholt Works already employs circular economy principles with waste products of sewage sludge and water filter media being transformed back into usable products as summarised in Figure 2 below. The use of sewage sludge to generate energy means Esholt is almost entirely energy self-sufficient, and the sales of products such as construction grade aggregate aligns with the organisation’s drivers of keeping customer bills low and providing returns for investors, as well as

remaining efficient and reducing environmental impact. Yorkshire Water is close to achieving 100% landfill avoidance and works with service partners and customers to reduce waste where possible .

It is hoped that the Circular Economy Demonstrator will include a ‘Circular Economy Business Park’, which will provide an exemplar of circular economy practice in the UK. The Economic Recovery Plan sets out the enablers that will be key to the success of this including engagement and partnership working across the Sustainable Development Partnership Board, CBMDC, local businesses and communities, alignment with local, regional and national priorities and initiatives and the necessary permits and planning being approved by relevant authorities. The intended benefits are a reduction in resource usage through industrial symbiosis, synergies created with other businesses in supply chain(s), the development of local expertise in circular economy with skills and start-up spin-offs, and the creation of green jobs and gross value added.

An interesting feature of the Bradford case is that other key organisations across the City have been involved in establishing Bradford as a centre of excellence for learning about circular economy, and this ties in with wider awareness of circular economy, support, and capacity building in the area. For example, the University of Bradford has played an advisory role with the Council as well as Chairing the Economic Recovery Board. The University itself boasts a net-zero campus, producing their own energy through solar arrays. They also have an anaerobic digester and a rocket composter, as well as beehives and an

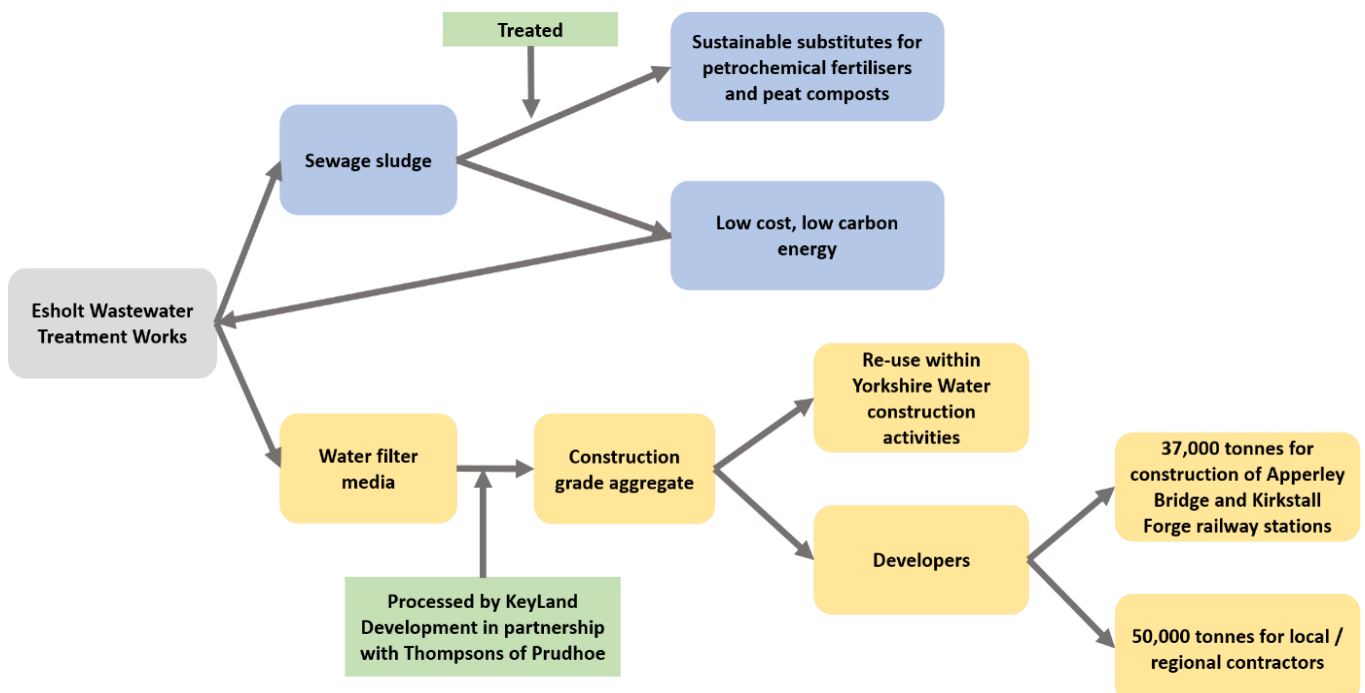


Figure 2: Summary of how waste products from Esholt wastewater treatment works are transformed into usable products.

area for growing food. The Centre for Sustainable Environments emphasises interdisciplinary approaches that 'integrate technological, organisational and societal solutions to meet contemporary environmental challenges', and the University is home to the only MBA in Innovation, Enterprise and Circular Economy, which gives Bradford a reputational boost in this area (see Box 1).

Challenges and approaches to resolving them

While challenges around the circular economy work specifically were not identified, the new Economic Recovery Plan was clear that Covid-19 has had a severe adverse effect on the district of Bradford and that Brexit could bring further issues. These include increased unemployment and exacerbation of the economic inequalities across the District. These impacts may well create barriers to the realisation of the goals set out in the document.

Emerging Benefits

Beyond specific project by project impacts (for example, improved resource efficiency, reduced waste to landfill, new businesses being established), the place-based approach has resulted in an increased 'awareness of the benefits of a circular approach' and has enabled relationships with local stakeholders to increase their support in 'horizontal' sectors. This in turn is creating opportunities for circular economy to be embedded in other relevant activity taking place on a regional and local level, such as City Region Deals, regional economic development priorities and sustainability goals.

Moving forward

Both the Economic Recovery Plan and the Bradford District Economic Strategy cover the period until 2030, and this will include the realisation of the Circular Economy Demonstrator. The Economic Strategy will be revisited in 2022 and a longer term plan will be developed then.

University of Bradford MBA Innovation, Enterprise and Circular Economy

The MBA Innovation, Enterprise and Circular Economy, which started in 2014, is run out of the School of Management and addresses specialist issues in circular economy, such as regenerative product design, new business models, reverse logistics and enabling communication technologies, as well as core business and management theories. The degree was co-created with the Ellen MacArthur Foundation and, as such, the University is a member of the international Pioneer University network, which supports higher education institutions in embedding circular economy and/or developing circular economy-focused teaching programmes. The MBA is part-time and distance learning, and requires at least three years of industry work experience from its applicants. It 'provides business professionals with the essentials in the circular economy framework' and attracts students from across the world so contributing to Bradford's reputation as an international city. Programme Director Dr Simon Mair reports that cohorts are usually made up of approximately 15 students. The students take a variety of modules focusing on, for example, energy, resources and commodities as a critical component of future economic and business success, as well as exploring the value and benefits of localisation, global trading relationships and enabling communication technologies, and completing a Management Project. Simon sees the circular economy as a useful framing device for exploring these topics and suggests that students find the language of circular economy an effective and accessible way to approach their colleagues and managers with a view to affecting change. Although there is an emphasis on engineering materials in the MBA, Simon explained that social aspects of the circular economy are explored through these topics as well as through the monthly reading group, which is currently making its way through Kate Raworth's Doughnut Economics.

Box 1: The University of Bradford's MBA Innovation, Enterprise and Circular Economy