# Briefing note

29 August 2023

South Gloucestershire Council
Delivering for you

## Greenprint Project (ADEPT Live Labs 2)

### Background

Live Labs 2 is a three-year, £30million, UK-wide programme funded by the Department for Transport, (DfT), that will run until March 2026, with a five-year subsequent monitoring and evaluation period. Seven projects, grouped by four interconnected themes, are being led by local authorities working alongside commercial and academic partners.

Following the success of the ADEPT SMART Places Live Labs 1 programme and its focus on innovation across local roads, Live Labs 2 concentrates on how to decarbonise local highways infrastructure and assets, bringing innovation to a sector that is traditionally risk adverse. The Association of Directors of Environment, Economy, Planning & Transport (ADEPT) brings together directors from county, unitary, metropolitan and combined authorities, along with local enterprise partnerships, sub-national transport bodies and corporate partners drawn from key service sectors. For more information on ADEPT please visit the website: www.adeptnet.org.uk

South Gloucestershire Council (SGC) and West Sussex County Council (WSCC) are now working in partnership to deliver one of the Live Labs 2 projects: *Greenprint – a carbon negative systems model for green infrastructure management.* In response to the Climate and Nature Emergency, both councils have set commitments to achieve net zero carbon emissions by 2030.

Following successful submission of the Outline Business Case in April, first year funding was provided by DfT in May, as part of the overall £4m budget available over the next three years. In July, Arup were awarded the five-year contract which will continue beyond the three-year programme, to examine whether programme objectives have been met and to understand the effectiveness and efficiency of each Live Lab and its knowledge sharing with the wider sector.

# Project overview

Currently, grass in open spaces and highway verges in South Gloucestershire is cut and left on the ground, a process which increases the soil nutrient levels and leads to the proliferation of robust grasses and other nutrient-demanding vegetation. This practice does not encourage biodiversity, requires more frequent mowing and generates more operational emissions. SGC and WSCC will test new technologies for cutting and collecting the grass instead, whilst reducing the frequency of cuts, with the aims of:

- reducing operational emissions,
- increasing biodiversity,
- increasing soil carbon sequestration,
- reducing the carbon footprint of Council verge maintenance operations.

The cut and collected grass, known as biomass, will then be tested via several innovative processes. SGC plans to co-mingle grass cuttings with existing food waste collections currently transported to the Geneco anaerobic digestion (AD) plant in Avonmouth. The AD process breaks down the mixture in the absence of oxygen, into biogas and biomethane, which can be used to replace fossil fuels. Other outputs include biochar which can be used as an asphalt additive in road surfacing and a nutrient-rich digestate liquor, which can be used for fertiliser. Greenprint will investigate and test different options for this process and measure the impacts in terms of the aims listed above.

WSCC will examine related technologies including hydrothermal carbonisation, (HTC), and pyrolysis, (a process involving heating organic materials to a high temperature in the absence of oxygen).

Changing how we manage our verges and open spaces offers great potential to address the ecological emergency and provide resilience to climate change impacts. Implementing improvements to the verge network is an action in the Council's agreed Climate Emergency Action Plan: Climate and nature emergency in South Gloucestershire | BETA - South Gloucestershire Council (southglos.gov.uk) and supports important national strategies including the government's 25 Year Environment Plan and Net Zero Strategy.

A key project objective is to design and scale a system toolkit or 'green print', as a replicable carbon negative green infrastructure management model – to provide other local authorities with a guide to implementing this approach in their own areas. Knowledge sharing is critical to the success and scalability of the Live Labs programme.

We will use the Future Highways Research Groups Carbon Calculation & Accounting Standards (FHRG), a step-by-step guidance to assist Local Highways Authorities (LHA) in implementing the GHG (greenhouse gas) protocols for measuring and reporting carbon emissions.

# Project Update

Project activities have been broken down into several different work packages and officers are working hard to develop plans and appoint project partners where required. Procurement processes are underway to bring together the equipment, technical expertise and knowledge to deliver all aspects of this exciting innovation project.

Yate was selected as the 'pilot' area for the 'cut and collect' trial, primarily due to its proximity to our operational base making it easier to control costs and monitor the results. Engagement with Yate Town Council began earlier this year to identify specific plots of amenity grass to be included within the project. The selected plots were chosen from a wider list of candidate plots identified in a 2022 survey carried out by consultants Metis. This survey assessed the plots based on various criteria including maintaining highway safety, machine accessibility, social considerations, and wildlife connectivity. The 'cut and collect' in Yate began in August and the experiment will be rolled out to all other parishes from 2024 as a programme of engagement is developed to first agree the plots in each case.

The trial plots will receive between 2 and 5 cuts per season, rather than the typical 8 to 10 amenity cuts. 'Cut and collect' is expected to be a more expensive way of working, (as the cost of collection is likely to outweigh the cost savings of the reduction in cuts), but the project will be measuring all operational costs and assessing these against the resulting costs and benefits in other areas - particularly carbon and biodiversity. We are aiming for the changes to be cost neutral.

It is important to note the experimental change in cutting focuses on whether we can reduce our carbon footprint, improve the carbon storage of our green spaces, and improve opportunities for nature restoration.

Please do get in touch if you have any questions.

# Communications

Updates and announcements for the project will be communicated through our usual online channels, (social media, weekly update newsletter, etc).

A project webpage has been set up with a contact email address, located here:
https://beta.southglos.gov.uk/energy-from-grass-cuttings

More information on all the Live Labs 2 projects can be found here:
www.adeptnet.org.uk/livelabs2

# Contact information

Chris Harris
Principal Project Officer – Engineering (Asset and Infrastructure)
01454 863800
www.southglos.gov.uk