

A Net Zero Carbon Roadmap for Surrey

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Executive Summary

Background:

- Scientific evidence calls for rapid reductions in global carbon¹ emissions if we are to limit average levels of warming to 1.5°C and so avoid the risks associated with dangerous or runaway climate change.
- Globally, the IPCC suggests that we will have used up the global carbon budget that gives us a good chance of limiting warming to 1.5°C degrees within a decade. This science underpins calls for the declaration of a climate emergency.
- Dividing the global carbon budget up by population gives Surrey a total carbon budget of 56 million tonnes from 2020. Based only on the fuel and electricity used within its boundaries, Surrey currently emits c.6 million tonnes of carbon a year, meaning that it would use up its carbon budget in just over 8 years.

Baselines and Targets:

- Carbon emissions from Surrey have fallen by 35% since 2005. With on-going decarbonisation of electricity, and taking into account population and economic growth, we project that Surrey's 2005 level of emissions will have fallen by 44% by 2050.
- If it is to stay within its carbon budget, Surrey needs to add to the 35% reductions already achieved to secure 46% reductions on its 2005 level of emissions by 2025, 67% by 2030, 80% by 2035, 87% by 2040, 92% by 2045 and 95% by 2050. This means that the majority of all carbon cuts need to be delivered in the next ten years.

The Cost-Effective Options:

- To meet these targets, Surrey will need to adopt low carbon options that close the gap between its projected emissions in 2050 and net zero emissions.
- Some of this can be achieved through cost-effective options that would generate economic and often also wide social and environmental benefits in the area.
- The analysis shows that Surrey could close the gap between its projected emissions in 2050 and net zero emissions by 37% through the adoption of cost-effective options in houses, public and commercial buildings, transport and industry.
- Adopting these options would reduce Surrey's total projected energy bill in 2050 by £1.32 billion p.a. whilst also creating over 21 thousand years of employment in the city. They could also help to generate wider benefits, for example by helping to tackle fuel poverty, reduce congestion, improve air quality, and enhance public health.
- The most carbon effective options for the city to deliver these carbon cuts include improved heating, lighting and insulation in houses, cooling and insulation in offices, shops and restaurants and the wider up-take of electric vehicles.

The Need for Ambition and Innovation:

- The analysis also shows that Surrey could close the gap to net-zero emissions in 2050 by 64% through the adoption of options that already available but that may not pay for themselves directly through the energy they save. Many of these options would however generate indirect benefits, for example relating to reduced congestion and air pollution and improved public health.
- This means that although it can achieve a lot by focusing on already established options, Surrey still has to identify some other possibly more innovative options that could deliver the last 36% of the gap between its projected emissions in 2050 and a net zero target.

¹ For simplicity, we use the term 'carbon' as shorthand for all greenhouse gases. All figures in this report relate to the carbon dioxide equivalent (CO₂e) of all greenhouse gases. Note that our assessment therefore differs from other assessments that focus only on CO₂.

- Some of the ideas for innovative options identified elsewhere, that could also be considered for Surrey, include targeting a full transition to net zero homes and public/commercial buildings by 2030, promoting the rapid acceleration of active travel (e.g. walking and cycling), tackling food waste, reducing meat and dairy consumption and reducing concrete and steel consumption/promoting adoption of green infrastructure.
- Surrey will need to practically engage with the scale of deployment and investment required to reach or even approximate its climate targets. We find that across the county, many hundreds of thousands of homes and square-metres of floorspace will require retrofitting and installations, thousands of journeys transformed. The likely daily rates of intervention found here present an immediate clarification of the ambition, scale and prioritisation of climate action required in Surrey.

Next Steps:

Based on the experiences of other UK authorities, we would recommend the following basic steps:

- Declaring a climate emergency and adopting 5 yearly carbon reduction targets;
- Developing, consulting on and publishing a climate action plan that sets out the steps needed to meet those targets and that enables capacities to be built, key barriers to be identified and removed and progress to be tracked;
- Supporting an independent Surrey Climate Commission to act as a critical friend to the county, to draw actors together to share responsibilities, build capacities, coordinate actions, celebrate successes and collate evidence to guide and track the transition;
- Developing leadership groups for key activity areas in homes, public and commercial buildings, transport and industry, with plans for delivery of priority actions in each sector.
- Encouraging all large organisations and businesses in the county to match the broader carbon reduction commitments and to report back on progress;
- Ensuring that the councils in the county lead the way by integrating climate change into all of their activities and by requiring new planning applications or policy proposals to assess and communicate their contributions to/impacts on the carbon target;
- Developing detailed engagements with all social groups in the county to build a social license for transformative change and to ensure that people and places are not left behind.

Annex 3 Surrey Report