Communities, Environment and Highways Select Committee

14 November 2019

Surrey's Greener Future
Task Group Final Report

Report Summary

In 2018, the UN Intergovernmental Panel on Climate Change (IPCC) released a landmark report highlighting that even half a degree beyond 1.5C would significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people. In response to this significant threat to society and our planet, Surrey County Council has declared a Climate Emergency, committing to becoming net zero carbon by 2050.

However, our current policies leave us far short of this ambition, with emissions only expected to fall by 44% against 2005 levels by 2050. We recognise the need to address this gap through committed and continued ambition, and this Task Group report sets out the initial calls to action to begin this process. It will require a concerted effort from central government, local government, businesses and residents to change behavior immediately and into the future.

Purpose of report

To provide the Communities, Environment and Highways Select Committee with a detailed report on the findings and recommendations of the Greener Future Task Group which was set up to consider the Council's role in tackling climate change.

Acknowledgements

Members would like to take this opportunity to thank all who have taken time to share their experiences with the Task Group which has helped to shape the findings of this review.

Any errors, factual inaccuracies or inconsistencies contained within the report are the responsibility of the Task Group alone and not of those who contributed their knowledge, insight and experiences to the formation of this report.

Context

1. Climate change is occurring earlier and more rapidly than expected. The world's leading climate scientists have warned there is only 12 years for global warming to be kept to a maximum of 1.5C. The IPCC's 1.5 degree Special Report, released in 2018, identified that even half a degree more in warming would make a dramatic difference to the global environment.

2. People across the world have become more concerned about climate change and its impacts, with mass demonstrations taking place over the last year and an increase in media attention around the need to undertake rapid decarbonisation. In response to the growing concerns and recognition of the need to act, the UK Government declared a climate emergency earlier this year and made a commitment to reach net zero carbon emissions by 2050.

3. Since 1990 UK greenhouse gas (GHG) emissions have fallen by 40% despite the economy having grown by 75% in the same period. However, current government policies, particularly in the transport and waste sectors, remain insufficient to meet the fourth or fifth carbon budgets[1], and consumption-based emissions continue to rise. Despite showing global leadership in setting a legally binding net-zero target, the UK Climate Change Committee recognises that the national government must draw up new action plans to effectively deliver on this.

4. Surrey currently emits c.6.4 million tonnes of carbon a year across Scope 1 and 2 emissions[2]. These carbon emissions from Surrey have fallen by 35% since 2005. With ongoing decarbonisation of electricity, and taking into account population and economic growth, it's projected that Surrey's 2005 level of emissions will have fallen by 44% by 2050.

5. Baseline studies to support this report have demonstrated that the gap between Surrey's business as usual (BAU) emissions in 2050 and the net zero target could be closed by 65% through the adoption of both cost-effective and technically viable low carbon options. Identifying and investing in innovative and stretch options could deliver the remaining 35% of the gap between the BAU scenario and net zero, as well as working closely with local residents enable the needed changes in behaviour.

6. Furthermore, there is a recognition of the need to identify and address Scope 3 emissions[3], which has been estimated to make up 55% of total emissions of a municipality – changes in lifestyle will help to significantly reduce these emissions.

[1] 5 yearly carbon targets set by Government.
[2] Scope 1 emissions are direct emissions produced by the burning of fuels from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy.
[3] Scope 3 covers indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity etc.

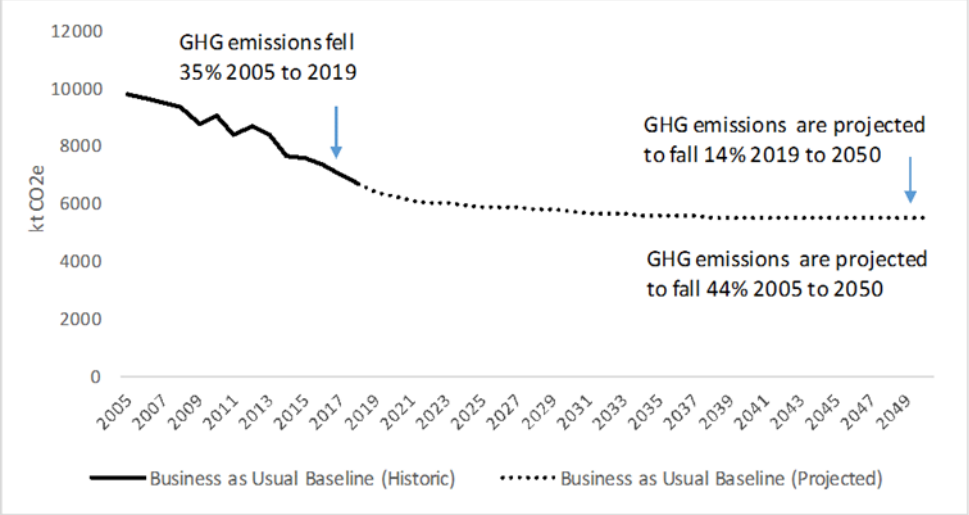
7. The County Council has recognised the concerns of residents on the environment in its Community Vision for Surrey in 2030 included a clear ambition that *'Residents live in clean, safe and green communities, where people and organisations embrace their environmental responsibilities'.* Tackling climate change is a key part of this ambition.

8. At its meeting on 9 July 2019, the County Council declared a climate emergency and made a commitment to work closely with the Government, the Environment Agency, our Borough & District colleagues, local businesses, our residents and other partners in reducing emissions; and deliver a strategy in 2019/20 involving a task group that clearly outlines how we plan to deliver the net zero target including actions that will be taken.

Emissions baselining

9. Analysis shows that Surrey's baseline Scope 1 and 2 emissions have fallen by 35% since 2005, due to a combination of increasingly decarbonised electricity supply, structural change in the economy, and the gradual adoption of more efficient buildings, vehicles and businesses.

10. With full decarbonisation of UK electricity by 2045, and taking into account economic growth (assumed at 2.5% per annum.), population growth (assumed at 0.1% p.a.) and on-going improvements in energy and fuel efficiency (assumed at 1% p.a), it is projected that Surrey's baseline emissions will fall by a further 14% by 2050, or by a total of 44% between 2005 and 2050.



11. Currently, 46% of Surrey's emissions come from the transport sector, with housing then responsible for 28% of emissions, public and commercial buildings for 15% and industry 11%.

The Task Group

12. A Task Group was established by the Communities, Highways and Environment Select Committee in July 2019 responding to Surrey County Council's recent declaration of a climate emergency and the actions the council needs to take to achieve net zero carbon emissions as soon as possible. The task group agreed to consider the role residents need to play in their local community and the wider impact of other public sector organisations and the private sector on the county's environment to develop a system-wide position.

13. The membership of the Task Group was agreed as the following:

    - Andy MacLeod (Chairman)
    - Paul Deach
    - Jonathan Essex
    - Becky Rush
    - Fiona White
    - John O'Reilly (ex-officio)

    Nikki Barton subsequently joined the task group in October 2019 and due to time commitments, Fiona White was unable to continue on the task group.

14. In order to reduce the impact on the environment through unnecessary travel and accommodate the different work commitments of the Task Group, the Members agreed to adopt an agile working approach. This meant a focus on using technology where possible to enable remote working and encouraging the use of video conferencing. The Task Group also agreed that they would work in smaller sub-groups were appropriate in order to cover a larger number of stakeholder sessions in the short timeframe.

15. The Task Group initially met on 5 August 2019 to agree their work programme, proposed key lines of enquiry, and the methodology for interacting with witnesses. At this meeting it was agreed that the committee would adopt a call for evidence approach over the summer which would then be followed by a more detailed programme of witness sessions with key officers within the council, external experts and councils seen as leading the way on tackling elements of climate change.

16. This report provides detail of the key themes and discussions that have taken place over a four month period. Views collated from witness sessions have been considered by the group and a set of recommendations have been agreed for consideration by the Select Committee, Cabinet and Council in November/December 2019.

Engaging with Key Stakeholders

17. The Task Group has met numerous times since it was first established, hearing evidence from a diverse range of stakeholders in an effort to understand the full range of issues that contribute to climate change. The task group was also keen to consult residents to gain an understanding of their concerns for Surrey in relation to climate change and to gain a resident perspective on how the Council itself can work to reach net zero carbon.

18. Various methods were used to engage with stakeholders, starting with an open call for evidence which ran from 14 August 2019 to 15 September 2019 and received 142 responses via the survey with 15 responses sent to the democratic services email, making a total of 157 responses. Out of the survey responses, 19 (13.38%) responded as an organisation and the remaining 123 as individuals. See Annex for complete list of contact and interviewed stakeholders.

19. The information received via the call for evidence was collated and analysed for the task group and helped to identify a number of working themes for the task group to structure the remainder of its work around. These themes were:

    - Energy
    - Buildings, development and infrastructure
    - Waste, resources and the circular economy
    - Countryside, food, farming, water and land use
    - Transport
    - Surrey County Council operations

20. Following the call for evidence, the Task Group undertook a series of witness sessions, focussing on three key groups:

    - SCC officers with a key role within the themes above
    - External Experts working in this field
    - Councils identified as leading the way in tackling elements of climate change

21. Members were pleased with the number and range of stakeholders they were able to speak to and appreciative of the generosity of others in putting time aside to share this knowledge and expertise.

22. As Surrey County Council develops its Climate Strategy in coming months, officers will continue to engage and reach out to relevant stakeholders for advice and input; co-designing and delivering sustainable solutions.

Call for Action

23. Climate Change is a complex issue and it is easy for the scale of it to be overwhelming, with residents often feeding back that they want to make changes but are not clear on what is needed. In order to provide clarity to this issue and a focus for councils, partners and residents to work together, most leading Councils have adopted some form of call for action or statement of intent around climate change. This needs to be supported by effective mechanisms for engagement in the process e.g. citizen assemblies and multi-stakeholder groups to enable residents to shape the solutions.

24. It is recommended that this approach is adopted by Surrey County Council and the Task Group has developed a Call for Action as part of its work, which summarises what the Task Group recommends that the County Council should take action on. If adopted, this will create the basis from which more detailed programmes of work can are then developed and prioritised both within the organisation and with partners, to deliver a zero carbon Surrey.

25. If approved by the Council, the call for action can be used to prioritise campaign activity and begin wider discussions with partners and communities about the behaviour changes needed at all levels to become net carbon zero. It also provides a starting point for developing a more detailed strategy and action plan which would build on the Call for Action and begin to test out the opportunities identified under each of the key themes (Annex 1) to ensure a realistic, costed approach to deliver net zero in line with an agreed trajectory.

Surrey County Council Action	Action with partners and communities
1. Ensure climate change is at the centre of the work we do through organisation-wide integration of climate change practices supported through training and engagement. 2. Be zero carbon across our organisational emissions by 2030. 3. All SCC's electricity delivered through a green energy supplier by 2020. Switch energy suppliers to a green tariff for gas. 4. Ensure the council's vehicle fleet will be zero emissions in the medium term. 5. Introduce a zero emission bus fleet across Surrey by 2030 6. We will use our procurement practices and influence across our supply chain to require and incentivise environmentally responsible commissioning 7. Work with pension funds and other investors to divest from fossil fuels and increase investment in energy efficiency, renewable energy, low carbon transport and low carbon heat solutions. 8. Work with staff to drive behavioural changes that help reduce business emissions, for example, reducing mileage travelled in private transport.	9. Commit to set long term targets (five-years) to reduce both the County's Scope 1, and 2 emissions, and measure and report on these annually 10. Commit to measure and report Scope 3 emissions annually, with an ambition to consider approaches to reduce or offset. 11. Establish effective engagement practices to ensure our strategy is co-designed and delivered with partners, businesses and residents across Surrey. 12. Continue to push for national level action to redirect investments and introduce market mechanisms that deliver changes that avoid negative outcomes for residents and help to support informed choices 13. Improve our communications and engagement on climate change to support ongoing changes in resident behaviour e.g. travel choices, dietary choices and build public acceptance 14. Improve public transport links and active travel infrastructure to reduce car use. 15. Further develop our EV strategy to enable electric transport with infrastructure and incentives 16. Work towards all new developments being zero carbon and leaving the natural environment and biodiversity in a better state than before. 17. Develop a land-use strategy for Surrey focused on increasing green spaces, woodland cover in line with national targets and sustainable farming practices. 18. Develop our approach to engaging residents and businesses to refocus on reducing consumption and production of waste as a priority, supported by increased reuse and recycling.

Key themes emerging from the Key Lines of Enquiry

26. Climate Change is a complex issue with a wide range of contributing factors. This meant that the remit of the task group's work was necessarily broad and the Members were keen to ensure that a key outcome of the work would be providing a structure and framework within which the county can develop its response to climate change and in particular, to focus on the factors that contribute most directly to carbon emissions.

27. The following section takes each of the themes in turn, outlining its role in relation to the environment, the evidence the task group has gathered and thoughts on the potential solutions. A number of case studies have been highlighted within this section along with any suggested areas of focus.

28. There are a number of national level policies in place that will support the effort in helping Surrey to reach its net zero carbon target – these are summarised within Annex 3. The themes in the main body of this report focus upon the action that Surrey as a county needs to take to build on action taken by the UK Government and increase the level of ambition such that we meet our 2050 target.

29. In addition, a wider range of recommendations that have been identified are included in Annex 1. This includes areas that the county council could look to implement itself alongside opportunities to deliver in partnership and changes that all residents and communities would need to make. It is recommended that the select committee ask officers to take these forward and develop them in a cross-party manner as part of the wider strategy development to test the deliverability of these schemes and, where appropriate, put forward costed business cases as part of Surrey's climate change strategy and action plan.

Energy

30. Energy production and use is the largest source of global greenhouse gas emissions and therefore a key sector which will need to change if we are to limit the global temperature increase to less than 1.5 degree Celsius – as recommended by the IPCC (Intergovernmental Panel on Climate Change) in their 2018 Special Report to limit the most severe impacts of climate change.

31. The UK's low carbon policies and abundant natural resources have seen renewable electricity capacity increase by more than three times since 2010, particularly within offshore wind. In 2017, renewable electricity accounted for more than a quarter (27.9%) of the UK's electricity generation. Thus, decarbonisation still remains a major challenge at the national level, and therefore for local decarbonisation.

32. In 2018, Surrey's Districts and Boroughs had a combined total capacity of 82.6 MW of renewable energy installed, from 11,271 sites, over 70% of this capacity

is from photovoltaics. If we divide the total UK installed capacity in 2019, of 45,900 MW, by population, Surrey would be expected to have an installed capacity of over 880 MW. Thus, Surrey is significantly below the national average. However, a significant portion of the UK's renewable energy is currently generated by offshore turbines, which is not a feasible technology for Surrey due to our landlocked position.

33. According to BEIS Renewable Energy Planning Database there are 17 currently renewable energy projects planned or under construction with an installed capacity of 44.6MW in Surrey.

34. The Council's current electricity use of our corporate buildings for 2018-19 was 44,707,052 kWh, which equates to 7,906 tCO_2. In 2018-19, 2.6% of the Council's corporate electricity demand was from renewable energy sources.

35. The annual gas consumption for the same period was 26,397,075 kWh which equates to 4,856 tCO_2. During this year 0% of the Council's heat was provided through a renewable/zero carbon heat tariff. Low carbon heating solutions e.g. heat pumps, alternative gas combined with carbon capture and storage, as well as load shifting measures could help to green this source of emissions.

<u>Opportunities identified from the witness sessions</u>

36. The Transport Development Planning Manager highlighted that installations of renewable energy on Surrey County Council-owned sites could provide revenue payback on loans to help grow a wider renewable energy generation programme. It would be beneficial to develop a plan which set out the preferred location and types of renewable generation across Surrey.

37. There are a number of existing Solar PV installations which have used brownfield sites, and thus does not interfere with other pressures on land use e.g. :
    - West Sussex built a Solar PV farm on a former landfill site, the first publicly-owned solar farm to be developed with large, on-site batteries.
    - Cambridgeshire County Council are developing a solar-plus-storage projects on existing landfill sites which aim to be the first of their kind in the UK.

38. Bristol City Council has developed its own energy service, largely driven by a realisation that one of the main challenges was taking ideas through to approval and implementation, but that once you get flowing, renewable energy projects start to become more self-regulated and flow from one to the other. Regarding the data collected on emissions, the Task Group heard that Bristol City Council use real-time monitoring so they know how much energy is being used. This has resulted in a 72% reduction in corporate emissions over the last decade.

39. Woking Borough Council first created an energy efficiency ring-fenced recycling fund for their corporate properties in the 1990s and this is still being used to fund these types of measures. Thameswey is an energy company which is wholly owned by Woking Borough Council. The profits from the company are ring-fenced and used for environmental projects in Woking – such as Action Surrey (providing energy advice and grants to residents). Surrey needs to share this good practice and build on the successful measures taken by its Districts and Boroughs.

40. From the evidence provided and best practice identified, there are a number of areas where the county council, partners and residents across Surrey could look to increase both energy efficiency and use of renewable energies. The full range of recommendations for action are included in the table in Annex 1 but examples include:

- Adopting a green energy supplier and looking at opportunities for the county council to generate its own energy;
- Establishing a council-owned energy company to provide energy for commercial sites
- Incentive or encourage localised renewable energy generation e.g. solar PV panels on residential homes and public sector buildings.

Buildings, development and infrastructure

41. This section focused on the opportunities to reduce energy consumption of the buildings and infrastructure sector, through considering both energy and water efficiency in existing residential and non-residential settings, and the development of new builds to zero carbon standards.

42. Emissions from buildings make up roughly 43% of the Surrey's total emissions. Data published by the Department for Business Energy and Industrial Strategy (BEIS) for 2017 (the most recent data currently available) shows that the Domestic CO_2 emissions within Surrey (predominantly power and heat) were 1,990 $ktCO_2$ with half of this originating from heating (space and water) and the remainder split between lighting and appliance use. This represents a 33% reduction from 2005. Similarly the industrial and commercial emissions within Surrey, which again would predominantly be for heat and power, were 1,303 $ktCO_2$ in 2017, which represents a 45% reduction on the 2005 emissions.

43. These reductions are due largely to improvements in energy efficiency of heating systems and efficiencies in electrical appliances and lighting. It is also reflective of the greening of the UK national grid.

44. The main challenge that remains is the persistent emissions from heating and cooling. Decarbonisation of buildings can be achieved through reduced usage,

improving efficiency and switching to low and potential zero carbon heating solutions. However, average UK decarbonisation rates per person in buildings amounts to just 0.8% per year with low uptake of energy efficiency measures, and limited deployment of low-carbon heating options.

45. Within Surrey the measures identified as most carbon effective are:

- Implementation of low carbon heat solutions e.g. heat pumps (which have the potential to become zero carbon).
- Installation of building management systems to control consumption
- High quality insulation i.e. cavity, solid wall, loft and floor.
- Demand reduction across heating and appliances

46. By 2035 the share of low-carbon heating needs to have increased from 4.5% compared to today and to 90% in 2050.

47. Surrey can lead from the front and begin to implement these measures within municipal buildings and schools, exploring the potential for requiring Excellent BREEAM standards or better on all new buildings.

48. Moving forward, Surrey will need to build on national policies e.g. all new builds EPC rating C to move towards zero carbon standard for all homes and buildings. This would require research and development of innovative technologies – and Surrey should seek to work with partners, universities and businesses to see how these can be brought to market in coming years.

49. Surrey County Council has been working to implement some of the national level policies e.g. identifying qualifying households under the ECO, as well increasing awareness and action amongst residents through education schemes.

50. Buildings also are responsible for additional emissions through their embodied carbon – (at the national level this is up to 13%). Efforts need to be taken to identify and reduce embodied carbon in new domestic and commercial builds, and explore the potential for planning policies that promote zero carbon across the lifecycle of a building. This should include assessing the benefits of maintenance and retrofit against completely new construction.

<u>Opportunities identified from the witness sessions</u>

51. Surrey County Council's Energy Manager highlighted the importance for continued investment in energy efficiency measures for the Council's corporate buildings as well as investment in SCC's new buildings assets. He stated that

the move to the new headquarters in Woking could result in significant energy savings. The Energy Manager explained that many Local Authorities were beginning to generate their own electricity through solar PV installations on land and buildings, whilst others such as Woking, Bristol and Nottingham had gone further and had established energy companies to sell inexpensive and clean energy to residents, investing the profits back into further energy efficiency and zero carbon technologies within the communities.

52. The Planning Group Manager identified that the National Planning Policy Framework sets out sustainable development as a central pillar. However, it needs to be further developed so that it can play an active role in driving forward sustainable solutions – Surrey County Council needs to push for specific guidance for the local authority as to how to embed climate change mitigation into the planning approach.

53. There needs to be a switching in the approach to planning, thinking longer term rather than just focusing on meeting demand for infrastructure. This needs to be a consistent approach across Surrey with all Districts and Boroughs adopting the same standards. This may include increasing the weighting for environmental credentials in planning applications, particularly setting higher standards for development on publically owned land.

54. Officers recognised that the County Council needs to lead by example and retrofit their existing properties with necessary measures to reduce energy and water consumption to help engender support for wider change across the county.

55. One of the expert witnesses the task group spoke to was EnergieSprong, who develop net zero energy homes through highly effective insulation and local low carbon energy sources i.e. air source heat pumps and batteries. The cost of the works is offset by the savings from the energy bills, furthermore house prices have been shown to increase by 25% following installation. Districts and Boroughs could consider installation within social housing.

56. Representatives from the Centre for Alternative Technology highlighted the need for energy efficiency measures alongside grid decarbonisation, and should be a key consideration in the procurement process for retrofitting existing municipal buildings. These measures could be supported by passivhaus design of new builds, however, there are cost challenges associated with this approach that would have to be explored further.

57. Woking Borough Council have financed energy efficiency upgrades across the portfolio of their buildings through the establishment of a ring fenced energy efficiency fund in the 1990s.

58. The New Economics Foundation highlighted to SCC the importance of ensuring community wider support for the transition, particularly actions that may be challenging, e.g. invasive home measures that may require entering the home. Thus it is important to work in collaboration with communities to identify these issues, and mitigate them early on during this transition process.

59. For the full list of potential recommendations, please refer to the table in Annex 1.

Waste, resources and the circular economy

60. The waste management sector was responsible for 4% of UK GHG emissions in 2016, amounting to 19.9MtCO_2e – mainly arising from methane released from landfill sites. Emissions have reduced by a significant 70% since 1990 driven by a reduction in biological waste sent to landfill, investment in methane capture technology and improved management at landfill sites.

61. In 2018 local authorities in Surrey collected 434,141 tonnes of waste, with 230,182 tonnes sent for recycling/compost/reuse, averaging at 53% across the county.

62. This reflects efforts that have been taken in recent years to promote recycling however, thinking about the lifetime of materials, moving towards the reduction of waste and encouraging re-use of materials is key, particularly considering that annual municipal waste in Surrey continues to grow at 2.7% annually.

63. Most recently, Surrey has launched three waste-centric policies:
    - Surrey Joint Municipal Waste Strategy has a target recycling and composting rate of 70% whilst below the local plan has a target of 75%.
    - The Surrey Waste Local Plan (2019-2033) setting out how and where different types of waste will be managed in the future
    - A Single Use Strategy Policy for Surrey which includes objectives pertaining to ending the sale of SUP products and use by our suppliers and contractors through awareness raising and changes to procurement practice and policy.

64. However, moving forward Surrey needs to push beyond this to focus on rethinking design, then reducing and reusing as a priority before recycling – focusing on actions that promote a circular economy. These should be developed in conjunction and building on the recent Community Recycling Centres and Waste Strategy Updated Report, and should include:

    - Convening the public and private sector to increase shared ownership and reuse initiative

- Lobby government to reduce market barriers to the expansion of reuse shops
- Raise awareness of circular economy opportunities by sharing best practice and market opportunities
- Build capacity and skills of individuals and business to increase understanding of repair practices

Opportunities identified from the witness sessions

65. The Director of Joint Waste Solutions highlighted that the work undertaken to change resident behaviour on recycling has been highly effective through its partnership programme, with Surrey ranking in the top two counties for recycling rates. However, future engagement with residents needs to move beyond this to encourage reduction in waste generated.

66. At the national level a new National Waste Strategy has been developed focusing on producer responsibility and packaging tax – consultations on this approach at a local level need to be better aligned moving forward. The Environment Delivery Group Manager noted that Surrey will be better placed in the marketplace if they can deal with some of the materials themselves – this may require infrastructure improvements to undertake the necessary processes.

67. Surrey County Council's Head of Procurement identified that waste production could be reduced on county council and district and borough sites through the procurement process. The evaluation criteria needs to be adapted to award more points for added environmental value, and allocating a greater percentage of the environmental score to the environmental assessment.

68. Looking at other local authorities, Stroud District Council established an award winning partnership with Ubico (a local authority owned company which Stroud DC has a share in) which now manages their waste and recycling collections. The approach offers flexibility as changes to the service can be made quickly without requiring a lengthy tendering process. The council is also working to reduce single use plastics and prosecuting those who burn commercial waste.

69. Derry City and Strabane District Council adopted A Circular Economy / Zero Waste Strategy in December 2017. A Zero Waste Circular Economy is identified in the Council's Strategic Growth Plan as one where: "*Resources are used for as long as possible, have maximum value extracted from them and are recovered and regenerated at the end of their service life*." The Strategy was co-funded by the Department for Agriculture, Environment and Rural Affairs and Derry City and Strabane District Council. Policies include:

- Communicating the benefits of the Zero Waste Circular Economy to residents and businesses, committing resources to this, embedding in education programmes.
- Supporting initiatives such as home composting, reusable nappies, re-use and repair workshops and cafes.
- Developing networks of merchants to act as reuse hubs for small construction firms.
- Redistribution of surplus edible foods by publicly run canteens (schools etc.) and supporting businesses to do similar.
- Zero Waste Circular Economy principles to be adopted in procurement, purchasing, planning, economic development plans, business funding, and construction.

70. Although not specifically targeted at Local Authorities, Zero Waste Europe has produced 'Zero Waste hierarchy for Europe'. This sets out a hierarchy of waste management approaches, with Refuse/Rethink/Redesign at the top, aiming to eliminate waste before it is created as the first preference. The model shows the steps that can be taken at each level.

71. There a number of approaches that the Council could look to adopt in order to tackle waste reduction and increase recycling. These are outlined in the table in Annex 1.

Agriculture, forestry and other land use

72. The scope of this theme covers the (rural) land within Surrey and looks at how this land is being affected by a changing climate and human activity and the role of land in mitigating against climate change as well as adapting to the changing climate.

73. The loss of soil fertility and biodiversity in rural areas in the UK are now very apparent, and have, in large, been driven by intensive food production. The Green alliance building on the work of the Committee on Climate Change (CCC) and the Royal Society, predict that by cutting emissions from agriculture, locking emissions into restored ecosystems, sequestering more carbon in trees and soil, and promoting demand for low carbon foods, the UK could reduce its land use emissions by nearly 60 per cent.

74. According to the Committee on Climate Change, the UK needs to increase the volume of carbon stored in forests and land and the supply of sustainable biomass harvested from UK sources should also increase.

75. They suggest that Government must increase net tree-planting from 9,000 hectares per year on average to 20,000 hectares by 2020 and 27,000 hectares by 2030, alongside planting energy crops on low quality land.

76. Surrey is the most wooded county in England with 23% coverage compared to a national average of 10% (Forestry Commission, 2017). This means it already makes a significant contribution to mitigating the effects of CO2 emissions but Surrey County Council has committed to planting an additional 1.2 million trees. This could equate to 900 hectares of additional woodland[4], Surrey would be required to plant 447 hectares annually by 2030 to help support the national level target – based on disaggregation using population distribution.

77. According to the Annual Review of Environment and Resources, food system emissions could account for as much as a quarter of all human emissions. That is 12% from agricultural production, another 9% from farming induced deforestation, and a further 3% from things like refrigeration and freight.

78. This could be addressed alongside improved sustainable farming practices e.g. reduction in use of pesticides, crop rotation and shared land use (e.g. reforestation).

79. This could be support through reducing meat and dairy consumption. By switching to a vegetarian diet it is possible to reduce one's carbon footprint from food by 35%, from an average of 1800 kg CO2-eq per year to 1100 kg CO2-eq per year. A vegan diet only causes about 40% of the emissions of an average diet at 700 kg CO2-eq per year. Surrey will explore the potential for more vegetarian-based meals at county-run events, and within municipal buildings e.g. schools. This could be accompanied by an education programme with children to spread the benefits of these lifestyle changes.

80. Surrey needs to build on the national level ambition for new developments to demonstrate net gain of biodiversity, by exploring the potential for supporting responsible planning practices that seek to also consider the climate change impacts of biodiversity and ability to mitigate the impacts of climate change.

Opportunities identified from the witness sessions

81. The task group spoke to the Centre for Alternative Technology (CAT) about the importance of food production and consumption and the impact this can have on carbon emissions. One of CAT's main focuses is promoting a healthy low carbon diet, which can be achieved through dietary change, food waste reduction and improved agricultural practices. This could result in greenhouse gas emissions from agriculture being reduced by as much as 75%. CAT's Zero Carbon Britain report found that the UK's annual GHG emissions can be reduced by 94% by using renewable energy resources and making changes to

[4] Assuming an average grid planting pattern of 9x9 ft.

agricultural system and diets and the remaining 6% could be balanced out with carbon capture from forests.

82. The task group also identified a number of case studies which the council and wider partners could learn from:
   - Cambridge University has reduced carbon intensive foods by removing beef and lamb from its menus, which has cut food-related carbon emissions by a third. The university's catering service replaces the meat with plant-based products for its 14 outlets and 1,500 annual events from October 2016.
   - Bristol Green Capital Partnership as part of its 2019-2022 priorities – 'Going for Gold' – is mobilising city-wide action to become a Gold Sustainable Food City by making positive changes to food practices and policies.
   - Forest for Cornwall: Project will see trees planted in urban areas, hedgerows and creating new woodlands. In 10 years the forest will cover around 32 square miles (about 2% of Cornwall's land mass). Over time, this forest will have the potential to consume around 1% of Cornwall's annual carbon footprint.

83. In line with the other themes, additional recommendations of areas to explore in the short, medium and long term are set out in the table in Annex 1.

Transport

84. The environmental impact of transport is highly significant as transport is a major user of energy, therefore creating air pollution and contributing to global warming through the emission of carbon dioxide. In Surrey, transport emissions make up 46% of total emissions due to the high reliance on private transport.

85. Emissions from transport do not just impact climate change but also have health impacts. Transport and electricity generation are two of the most significant sources of climate change and air pollutants which impact health. Particulate matter causes health concerns such as breathing difficulties but also contributes to the warming effect on the climate.

86. Surrey needs to understand its baseline better for air quality, to determine whether our actions are making a measureable difference, by working with Districts and Boroughs through their air quality management plans.

87. Due to Surrey's location next to London, and the proximity of both Heathrow and Gatwick Airports, there is considerable demand for movement within, to, from, and through the county. Issues Surrey face regarding transport also include the limited uptake of public transport and high levels of private car use, due to public transport being considered less convenient and costly. The 2017 CO2 estimates published by BEIS for Surrey, show that the CO2 emissions

from transport (excluding airports, motorways and railways) were 1,892 ktCO2. This represents an 11% reduction on the estimated emissions in 2005. This reduction is due largely to improved fuel efficiency of vehicles and the uptake in diesel vehicles.

88. There are three main actions that can be taken to reduce emissions associated with the transport sector, in order of carbon-impact:

- Mode share shift
- Place-based planning to reduce need for transport
- Electrification of transport types (particularly private transport.

89. Fuel efficiency has the lowest impact, does not contribute to a zero carbon strategy, and is mostly market driven – therefore will not be considered by the county.

90. The Rethinking Transport Programme being developed by the council with partners focuses on the other three key actions particularly the promotion of more sustainable modes of transport i.e. improvements in active and public transport infrastructure.

91. As well as supporting and investing in better active and public transport infrastructure to encourage mode share shift there also needs to be a culture shift in the way that residents and Surrey staff travel – positive engagement should promote not only the environmental but health and cost benefits from pursuing active and public transport ways of travelling.

92. The Rethinking Transport Programme highlighted the current lack of data on transport patterns within the county, undertaking studies to strengthen this could ensure that our strategies and policies are more appropriately targeted. There needs to be improved data on distribution of journeys across public transport types, first and last mile journeys, and the purpose of journeys e.g. commuter, personal etc.

93. In addition to the Rethinking Transport work, there needs to be a concerted effort to identify the extent of, type, and location of electrification infrastructure to support the electrification of private transport. This should be complementary of the promotion of mode-share and transit-orientated development and secondary to those ambitions.

<u>Opportunities identified from the witness sessions</u>

94. Strategic Transport Officers told the task group that there are many sustainable alternatives for fuel and it is necessary to find the most appropriate fuel for the local environment. Ultra-low emission diesel buses are currently the cleanest vehicles on our roads, integration between sectors within transport (buses & rail) is important to discourage private car use and, congestion can shape behaviour by discouraging car use.

95. A key opportunity within the council's control is to consider the placement of services in Surrey, encouraging the clustering of services to reduce travel distances. More system-wide, the sector needs to create a modal shift in transport by incentivising and improving the infrastructure of public transport and active travel whilst car use in town centres needs to be discouraged by introducing more Clean Air Zones. The officers also suggested identifying and focussing on particular geographical areas that are ready to make the zero-carbon shift when testing initiatives. A recommendation was made to roll out cycling travel planners, currently utilised in schools, to businesses and SCC staff.

96. The Safer Travel Team identified a number of services on offer to improve sustainable travel around schools (such as school speed watch, cycle training), however there remains a need to increase the amount and availability of school transport, and safety of those options. This will be aided by encouraging more schools to focus on sustainable travel and developing strategies around this could further reduce the impact of school travel.

97. The Public Health Team emphasised the importance of understanding the difference between air quality and climate change, for example, some improvements made to reduce climate change can lead to a decline in air quality and therefore worsen health issues. From a health perspective, traffic is the worst contributor to air quality in Surrey. Focusing on active travel, therefore, has multiple benefits for health and the climate. It was suggested that air quality be used as a driver for climate change mitigation due to the public concern over health, however there is need to find an effective way to communicate the issues.

98. The task group spoke to experts at the University of Hertfordshire, which is based in a similar area to Surrey with regards to public transport infrastructure and reliance on private car use. They highlighted the new powers of local authorities introduced in 2017, giving more control to local authorities over commercial bus routes and how these are delivered. Hertfordshire pointed to some specialists supporting behaviour change, such as 'Go Travel Solutions' who specialise in employer engagement on sustainable forms of transport, using a variety of initiatives and 'Transport for New Homes' who bring transport

and planning together, supporting new housing that promotes walking, cycling and public transport use.

99. The witness sessions highlighted the importance of working with Boroughs and Districts to avoid unsustainable developments in unsustainable locations by considering accessibility and active travel networks and reviewing the Highways Standards and Design, place greater focus on pedestrians and cyclists over car users, create multi-modal transport hubs at railway stations and create a sustainable transport community through travel planning.

100. This was reinforced in the discussions with Woking Borough Council and Bristol City Council, focusing on sustainable transport and the safety and ease of active travel. One way to do this is *by* encouraging public transport use through focussing on bus corridors with Districts and Boroughs and developing electric vehicle use. Another example included working with partners to introduce a 'polluter pays' concept with parking charges, and banning diesel cars within certain areas of Bristol city.

101. In order to create a genuine modal shift in transport, partnership working is key – both across the public sector and perhaps even more crucially, with the provider market. It is recommended that Surrey needs to create clear local visions and pathways towards net zero emissions from transport, which are sufficiently resources and financed. Area to consider include a focus on demand reduction, scale-up public transport and shift to zero-emission buses, promote bus priority by increasing bus lanes, bus operated traffic lights and high quality bus stations, ensure cyclists and pedestrians are at the top of the road user hierarchy by improving networks, develop clear travel plans for major travel generators (workplace, schools, hospitals), review parking prices and availability and introduce car free areas by designing shared space. An outline set of recommendations to consider in developing the climate change strategy are included in Annex 1.

Although this report is focused on the efforts that Surrey can make to reduce its emissions and achieve a zero carbon future, this action is being taken because of the unprecedented impacts of climate change we are facing globally, nationally, and locally. The section below sets out the work that we are taking to reduce the risk to our communities, infrastructure and services to ensure that we are resilience to any future impacts.

Adaptation and Resilience

102. In support of the first UK Climate Change Risk Assessment report in 2012, DEFRA commissioned regional assessments of climate change risk. The following were identified for the South East of England:

Area	Risk
Businesses	Increase in the frequency and severity of flooding causing damage and affecting business continuity
	Overheating of buildings affecting staff productivity
Health and wellbeing	Disruption to health, social care and emergency management services and school provision, from flooding, heatwaves and storms
	Excess deaths and illness from overheating
Buildings and infrastructure	Increased disruption, given that even minor incidents test the capacity of our infrastructure today and climate change is likely to exacerbate this
Agriculture and forestry	Stresses on woodlands and forest resources, via water stress and pests and diseases
	Changes in growing conditions such as warmer, longer growing seasons may make new crops more viable, as well as making existing ones less viable
Natural environment	Impact on biodiversity of habitats and species which are valued for the services they provide such as water and air purification, as well as their intrinsic value.

103. Surrey's 2017 Environment Sustainability policy recognises the need for the council to be resilient to environmental changes in the future to ensure that a 'clean, green and safe' character can be maintained.

104. It was recognised that the county faces an increased frequency and severity of adverse weather events notably flooding and heatwaves. These events have the potential to have a significant impact to local services and infrastructure e.g. highways, and to the health and wellbeing of local residents particularly vulnerable groups.

105. In 2016, Surrey's Local Resilience Forum produced Strategic Climate Change Guidance based on the DEFRA identified regional climate change risks. There are a number of partnerships and initiatives working to monitor and update these identified risks, and work alongside the community to develop adaptation measures that build greater resilience amongst residents and partners. These include:

- Surrey Prepared
- Surrey Community Resilience Partnership
- Surrey Community Risk Register

106. Surrey County Council's 10,000 acres of countryside has a significant role to play in reducing carbon emissions and boosting resilience to the effects of climate change. We will continue to work with our management partners, Surrey Wildlife Trust to ensure that the quality of the biodiversity and nature conservation value is maintained to ensure that the estate can continue to build our local resilience.

107. Surrey's open landscape is, however, is owned by many different landowners and joint working towards a strategy for landscape management to adapt to climate change would necessitate an AONB/County-wide partnership approach with key organisations such as the Forestry Commission and the National Trust as well as landowners such as the Albury, Puttenham and Wootton Estate.

108. Surrey Wildlife Trust has made good progress in this area with over 99% of the Estate's Sites of Special Scientific Interest (SSSI) sites now deemed to be in favourable/ favourable recovering condition by Natural England. Adaptation to climate change already presents modern challenges to the estate where vegetation and trees face devastation from imported diseases and predators, for example Ash Die back affects wooded stock in areas such as Norbury Park and Sheepleas.

Delivery

109. The next stage of developing specific actions and programmes will be create specific action plans that cost the time and resources required, including identifying the need for increased upskilling within the Council and more widely across the borough.

110. There will be costs in the short term to these plans, which can be recuperated through the future realised savings, however, we will need to explore innovative financing mechanisms to support our ambitions.

111. Delivering a zero carbon strategy will require support for all areas of the County, and with any change it is likely that we will encounter some level of concern from businesses, residents and our partners. We need to work to identify, recognise and respect these concerns, and work together through education, engagement and partnership to address these issues and move forward together on our path to a zero carbon future.

112. Despite the level of ambition from the County and its residents, without wider support and resourcing from central government, it will not be possible to make the changes needed at the pace required. It will therefore by critical for the next phase of the work to focus on costing the changes needed and working with the Government immediately following the election to agree increased powers and level of resources needed to enable local authorities to lead on delivering on the commitment for the UK to be net zero by 2050.

System-wide Approach

113. Surrey is a multi-tier area with the County Council, 11 Districts and Boroughs and significant number of town and parish councils sharing powers and responsibilities to tackle climate change. A number of the districts and boroughs in Surrey have also declared a climate emergency and it is clear that there is a collective ambition across the public sector to act now to reduce emissions swiftly.

114. In addition, the Surrey Waste Partnership recently agreed to extend its remit beyond waste to broader issues around the environment and has been re-named as the Surrey Environment Partnership. This partnership – which includes Surrey's 12 Environment portfolio holders (with officer support from the

Joint Waste Solutions team) – will be well placed to connect work across Surrey's local authorities, and other related partnership groups (Energy and Sustainability Partnership, the Policy Officers' Network, and the Planners' Network) and to drive the development of the strategy and common targets. It is hoped that the Greener Future 'call to action' will provide a helpful framework for developing a Surrey-wide approach.

115. It will be important to engage all sectors of Surrey's communities in this work, including residents, health, business, education and voluntary, community and faith organisations. A number of cities have adopted a climate commission approach to coordinate this with evidence that this is helping to deliver improved outcomes. Modelled on the Leeds Climate Commission. The recently established Surrey Climate Commission has the potential to provide overarching, apolitical guidance, through both its core group (of which Surrey County Council is a member), and the broader steering group that will have representation of all key stakeholders. The Task Group would encourage the County Council to continue to contribute to the emerging work in this area and look at how the Climate Commission might take a more prominent role in future.

Conclusions of the Task Group

116. Throughout the course of its work, the Task Group has received a valuable amount of evidence from witnesses covering a broad range of issues. The Task Group would like to thank all who have taken time to engage with the group and share their experiences.

117. Climate Change is a complex and far-reaching issues and the Task Group chose to group its work by theme in order to provide clarity and structure as well as a focus for questioning witnesses. The evidence heard at witness sessions has helped the group formulate a series of recommendations for consideration by the Select Committee, Cabinet and ultimately Council.

118. The recommendations agreed by the Task Group are based on evidence gained about the main local drivers of climate change, experts views on the best ways to tackle this and the ability of the council to intervene. It is recognised that this is the start of Surrey's journey to tackle climate change, with the work of the Task Group providing the basis for the call for action to be approved by Council. Following Council's consideration in December, further work will be needed by members and officers to develop a more detailed action plan against this, as outlined in the recommendations.

119. The Task Group is confident that the recommendations contained within this report, along with the draft call for action and further development of the table of

opportunities annexed to this report will help focus the council's effort in tackling climate change and provide a strong platform for taking forward this work with partners, businesses and residents across Surrey as only through collective action will the county be able to be net carbon zero.

120. The Task Group hopes that the County Council will fully support these recommendations and recommends the establishment of a member reference group to take this work further and develop a zero carbon climate strategy.

Next Steps

121. The Task Group's report will be considered by the Communities, Environment and Highways Select Committee on 22 November 2019 with a report submitted to Cabinet on 26 November 2019 and recommendations to Council on 10 December 2019.

122. The County Council, working with the Surrey Environment Partnership, will continue to build on the work of the task group, the call for action and the potential recommendations within Annex 1 to develop a Surrey climate change strategy by April 2020.

Report author: Andy MacLeod, Chairman of the Surrey's Greener Future Task Group

Report contact: Katie Sargent

Contact details: Katie.sargent@surreycc.gov.uk

Sources/background papers:

A Summary of Climate Change Risks for South East England. Source.

City Governments and their Role in Enabling a Circular Economy Transition: An Overview of Urban Policy Levels. Source.

Community Vision for Surrey in 2030

IPCC 1.5°C Special Report. Source.

The Future of Urban Consumption in a 1.5°C World. Source.

Zero Waste Hierarchy. Source.

Annexes:

Annex 1 – Potential recommendations
Annex 2 – Surrey Carbon Roadmap (by Leeds University)
Annex 3 – Summary of Government policies – themed
Annex 4 – Summary of witness sessions (experts and officers)
Annex 5 – Summary of responses from call for evidence

ANNEX 1 – POTENTIAL RECOMMENDATIONS

Through the call for evidence, wider research and witness sessions, the task group has gathered a range of insights and examples of interventions that could contribute towards reducing Surrey's emissions and becoming net zero carbon. This includes areas that the county council could look to implement itself, opportunities to deliver in partnership as well as changes that all residents and communities would need to make.

A summary of the opportunities for emissions reductions is included within this annex, and it is recommended that the select committee ask officers to take these forward, and others as they arise, as part of the wider strategy development – testing their deliverability, developing resource and budget plans and key target dates as part of Surrey's climate change strategy and action plan.

All of these actions will need effort to begin immediately to ensure their success; whilst others can be achieved quickly, others will take a longer and more concerted effort – but all should be achieved by 2050 such that we meet our target.

ENERGY		
	SCC	**Partnership and communities**
To be achieved by 2025 or sooner	Switch to a green electricity supplier by 2020. Install a large scale solar PV array on SCC land to generate electricity. Set annual reduction targets for electricity and gas consumption.	Switch to a green tariff for electricity and gas. Install energy efficiency measures in homes – e.g. LED lighting, insulation, efficient boilers, smart heating controls. Local planning processes to prioritise local renewable energy generation. Establish district heating networks. Lobby Government to accelerate decarbonisation of UK power networks.

To be achieved by 2035 or sooner	All heating provided via 100% renewable tariff. Renewable energy installations will meet 100% of electricity demand.	Promote and enable investment in zero carbon heat technologies. Generate energy through micro renewable installations.
To be achieved by 2050 or sooner	Establish an energy company to provide clean and cheap electricity for Surrey.	Create a dynamic energy system to link supply, demand and storage patterns across power and heat. Install zero carbon heating systems in homes – i.e. air/ground source heat pumps

BUILDINGS, DEVELOPMENT & INFRASTRUCTURE		
	SCC	**Partnership and communities**
To be achieved by 2025 or sooner	Produce business case and investment strategy for home insulation installation, focusing on a 'whole street' approach. Seek LEP/government financial support. Support and educate residents about home energy efficiency measures. Introduce a Housing Energy Action Team to help residents keep their homes warm. Set local carbon targets.	Communications plan to target behaviour change to reduce home energy and water usage. Include support and education of residents about home energy efficiency measures. Plan for the reduction of home energy use by installing energy efficiency measures such as LED lighting, insulation, efficient boilers with smart heating controls. Set local carbon targets. Prepare for district heating networks.
To be achieved by 2035 or sooner	Review and strengthen existing building standards and agree a consistent approach with Surrey's Boroughs and Districts to public sector schemes, and minimum planning standards. Programme to retrofit existing municipal portfolio incorporate energy efficiency measures, supported by procurement process.	Programme to install energy efficiency measures in social housing portfolio.
To be achieved by 2050 or sooner	Establish carbon mitigation as a central principle of the planning process.	Programme to install zero carbon heating systems in homes.

5

WASTE, RESOURCES & THE CIRCULAR ECONOMY		
	SCC	**Partnership and communities**
To be achieved by 2025 or sooner	Introduce compulsory recycling across SCC operations. Programme of measures to encourage waste reduction. Increase producer responsibility through the commissioning and procurement processes Draw on expert advice and good practice elsewhere.	Change waste behaviour patterns – seeking to reduce waste and increase recycling through increased awareness raising and support for reuse services. Establish a set of shared priorities to support work across partners with a strong focus on waste minimisation.
To be achieved by 2035 or sooner	Communications plan to scale up behaviour change. Review overall waste strategy and establish a plan for further partnership work.	Establish programme of investment in reuse alternatives for products and deposit return schemes to support producer responsibility.
To be achieved by 2050 or sooner	Investment in infrastructure to scale-up material Transformational activities to maximise partnership work.	Join up collection across the districts and boroughs and, where possible, work outside county borders to improve efficiency.

COUNTRYSIDE, FOOD, FARMING, WATER & LAND USE		
	SCC	**Partnership and communities**
To be achieved by 2025 or sooner	Establish overall land-use and climate change plan for Surrey that includes: protection of existing trees and landscapes in order to store carbon, support nature, improve soils and water quality, and aid flood protection and urban design. Ensure food served at all SCC events is plant based and/or from local food banks, and that no food waste goes to landfill. Ensure that the Soil Association Gold Award for catering is met where appropriate.	Encourage low carbon dietary choices – e.g. locally-sourced and plant-based options. Protect biodiversity and encourage natural habitats to thrive – e.g. re-wilding. Reduce food waste by encouraging re-use of leftovers and/or composting. Ensure school meals are healthy and sustainable, delivering to the Soil Association's gold award at a minimum. Ensure food served in hospitals is sustainable and locally grown where possible. Introduce a requirement for 'biodiversity net gain' in new developments (as set out in the Environment Bill).
To be achieved by 2035 or sooner	Prioritise species that sequester high levels of CO_2 (and other pollutants) and can adapt to a changing climate on SCC land. Reduce use of pesticides and increase planting of hedgerows and wildflowers on SCC land to increase biodiversity.	Enable and encourage planting and growing of food via sustainable practices – set targets re % of food grown on local land? Ensure that food waste from school does not go to landfill. All decisions re land use in Surrey to consider climate change mitigation and adaptation. Public sector partners to obtain 40% of food from local/sustainable sources by 2021, and 80% by 2025. Create new woodlands in Surrey and facilitate the planting of 1.2 million trees by 2030 (ensuring the right trees are planted in the right places and grow to maturity).

To be achieved by 2050 or sooner	Install renewable energy installations on SCC land (see Energy section). Use natural flood management approaches to increase carbon sequestration and improve catchment management.	Install renewable power and heat technologies (see Energy). Support farmers to promote and adopt best practice, including reduction in greenhouse gas emissions. Grow energy crops that can be used for local power generation – e.g. biomass. Become a Gold Sustainable Food County.

TRANSPORT		
	SCC	**Partnership and communities**
To be achieved by 2025 or sooner	Enable and incentivise staff and Members to travel via clean/green transport modes, including. by: • reserving parking spaces for car shares • making zero-/low-emission vehicles available via car club • promote lift sharing • improving cycle storage and changing facilities • introducing sustainable travel plans for staff • senior staff and Members making personal commitments to travel sustainably • wider availability of EV charging points	Agree long-term vision for transport in Surrey, supported by shared priorities. Introduce county-wide targets for reducing journeys by road. Prioritise development of active and public travel infrastructure, including cycle networks and facilities, alongside improved access (including walking) to public transport routes and pedestrianisation schemes. Require minimum threshold for euro standard vehicles in all new contracts with providers.
To be achieved by 2035 or sooner	Ensure all offices are accessible via public transport. Remove free parking for staff. Mileage for petrol/diesel cars will only be paid in exceptional circumstances. All fleet vehicles to be zero carbon.	Switch to low-emission or zero-emission vehicles. Majority of bus routes will be served by zero-emission buses. Enable and increase active travel and public transport use by improving infrastructure, accessibility, reliability and safety. Planning policy to require all new builds to have access to active and public transport infrastructure as well as zero carbon transport infrastructure options e.g. EV charging points. Ensure service provision models reduce need to travel.

To be achieved by 2050 or sooner	All SCC provider vehicles to be zero carbon.	All bus routes in Surrey served by 100% zero emission buses. Ensure all new developments and infrastructure supports zero-emission transport.

ANNEX 2 – SURREY CARBON ROADMAP (by Leeds University)

PCAN Home | PLACE-BASED CLIMATE ACTION NETWORK

UNIVERSITY OF LEEDS

A Surrey Carbon Roadmap for Surrey

Andy Gouldson, Andrew Sudmant and Millie Duncan
University of Leeds
a.gouldson@leeds.ac.uk

www.pcancities.org

Please reference as: Gouldson, A. Sudmant, A. Duncan, A. (2019). “A summary carbon roadmap for Surrey”. Place-based Climate Action Network, https://pcancities.org.uk/

Highlights

- Scientific evidence calls for rapid reductions in global carbon[5] emissions if we are to limit average levels of warming to 1.5 degrees 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 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 49.9 million tonnes from 2020. Based only on the fuel and electricity used within its boundaries, Surrey currently emits c.6.4 million tonnes of carbon a year, meaning that it would use up its carbon budget in just over 8 years.
- 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 65% reductions on its 2005 level of emissions by 2025, 79% by 2030, 87% by 2035, 92% by 2040, 95% by 2045 and 97% by 2050. This means that the majority of all carbon cuts need to be delivered in the next ten years.
- 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.
- The analysis shows that Surrey could close this gap by 39% through the adoption of cost-effective options in houses, public and commercial buildings, transport and industry.
- Adopting these options would reduce Surrey's total energy bill by £538 million p.a. whilst also creating 6,695 years of employment in the city.
- 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 analysis also shows that Surrey could close the gap by 65% 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 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 35% of the gap between its projected emissions in 2050 and a net zero target.

Introduction

[5] 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.

Climate science has proven the connection between the concentration of greenhouse gases in the atmosphere and the extent to which the atmosphere traps heat and so leads to global warming. The science tells us – with a very high level of confidence – which such warming will lead to increasingly severe disruption to our weather patterns and water and food systems, and to ecosystems and biodiversity. Perhaps most worryingly, the science predicts that there may be a point where warming becomes self-fuelling – for example where it leads to the thawing of permafrost so that they release significant quantities of greenhouse gases that then lead to more warming. Beyond this point or threshold, the evidence suggests that we may lose control of our future climate and become subject to what has been referred to as dangerous or runaway climate change.

Until recently, scientists felt that this threshold existed at around 2 degrees centigrade of global warming, measured as a global average of surface temperatures. However, more recent scientific assessments (especially by the Intergovernmental Panel on Climate Change or IPCC in 2017) have suggested that the threshold should instead be set at 1.5 degrees centigrade. This change in the suggested threshold from 2 degrees to 1.5 degrees has led to calls for targets for decarbonisation to be made both stricter (e.g. for the UK to move from an 80% decarbonisation target to a net zero target), and to be brought forward (e.g. from 2050 to 2030).

Globally, the IPCC suggests that from 2020 we can only emit 344 billion tonnes of greenhouse gases if we want to give ourselves a 66% chance of avoiding dangerous climate change. Globally, we are currently emitting over 37 billion tonnes of greenhouse gases every year. That means that we will have used up our global carbon budget within a decade. It is this realisation – and the ever accumulating science on the scale of the impacts of climate change - that led to calls for organisations and areas to declare a climate emergency and to develop and implement plans to rapidly reduce GHG emissions.

Measuring Your Carbon Footprint

Any area's carbon footprint – measured in terms of the total impact of all of its greenhouse gas emissions - can be divided into three types of greenhouse gas emissions.

- Those coming from the fuel (e.g. petrol, diesel or gas) that is directly used within an area and from other sources such as landfill sites or industry within the area. These are known as Scope 1 emissions.
- Those coming from the electricity that is used within the area, even if it is generated somewhere else. These are known as Scope 2 emissions. Together scope 1 and 2 emissions are sometimes referred to as territorial emissions.
- Those associated with the goods and services that are produced elsewhere but imported and consumed within the area. After taking into account the carbon footprint of any goods and services produced in the area but that are

exported and consumed elsewhere, these are known as Scope 3 or consumption-based emissions.

In this report, we focus on scope 1 and 2 emissions, and we exclude consideration of long-distance travel and of scope 3 or consumption-based emissions. We do this because scope 1 and 2 emissions are more directly under the control of actors within an area, and because the carbon accounting and management options for these emissions are better developed. We stress though that emissions from longer distance travel (especially aviation) and consumption are very significant, and also need to be addressed.

Surrey's Baseline Emissions

Analysis shows that Surrey's baseline (scope 1 and 2) emissions have fallen by 35% since 2005, due to a combination of increasingly decarbonised electricity supply, structural change in the economy, and the gradual adoption of more efficient buildings, vehicles and businesses.

With full decarbonisation of UK electricity by 2045, and taking into account economic growth (assumed at 2.5% p.a.), population growth (assumed at 0.1% p.a.) and on-going improvements in energy and fuel efficiency (assumed at 1% p.a), we project that Surrey's baseline (scope 1 and 2) emissions will fall by a further 14% by 2050, or by a total of 44% between 2005 and 2050.

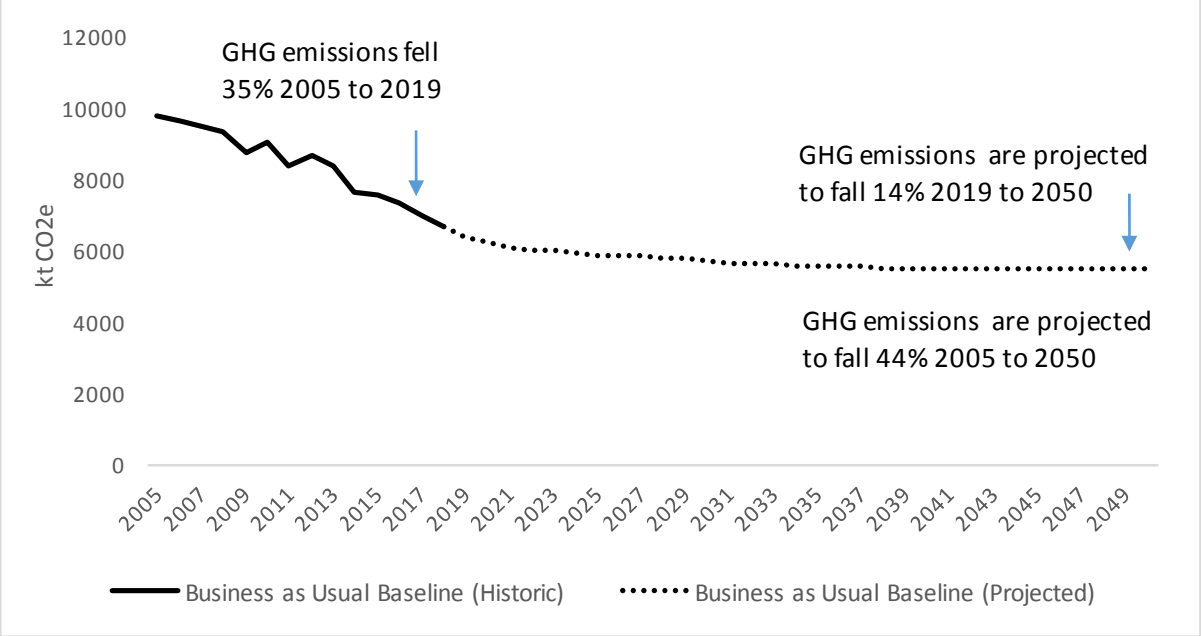


Figure 1: Scope 1 and 2 GHG emissions 2005 to 2050 for Surrey

Currently, 46% of Surrey's emissions come from the transport sector, with housing then responsible for 28% of emissions, public and commercial buildings for 15% and industry 11%. By 2050, we project emissions from housing will increase with a small

decrease in the proportion of emissions from transport, public/commercial buildings and industry.

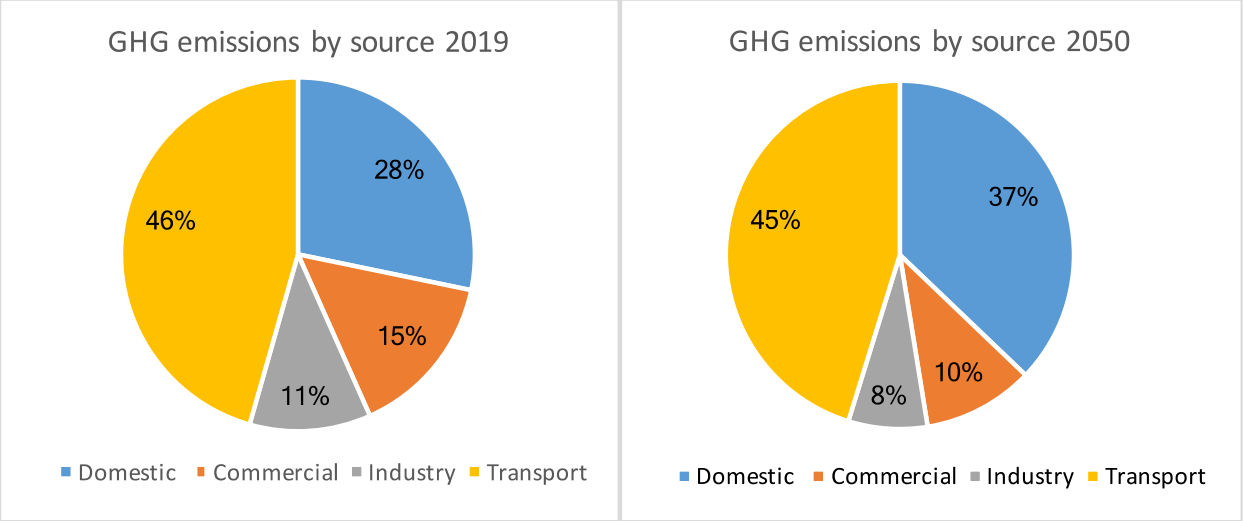


Figure 2: Emissions by sector

Science-based targets for Surrey

The Inter-governmental Panel on Climate Change (IPCC) has argued that from 2020, keeping within a global carbon budget of 344 gigatonnes (i.e. 344 billion tonnes) of GHG emissions would give us a 66% chance of limiting average warming to 1.5 degrees and therefore avoiding dangerous levels of climate change. If we divide this global figure up on an equal basis by population, this gives Surrey a total carbon budget of 49.9 megatonnes (i.e. 49.9 million tonnes) from 2020.

At current rates, Surrey would use up this budget in just over 8 years. However, Surrey could stay within its carbon budget by reducing its emissions by 9.6% year on year. This would mean that Surrey's commits to transition from its current position where its emissions are 35% lower than 2005 levels to a pathway where its emissions are 65% lower than 2005 levels by 2025, 79% by 2030, 87% by 2035, 92% by 2040, 95% by 2045 and 97% by 2050. Such a trajectory would mean that the majority of all carbon cuts need to be delivered in the next ten years.

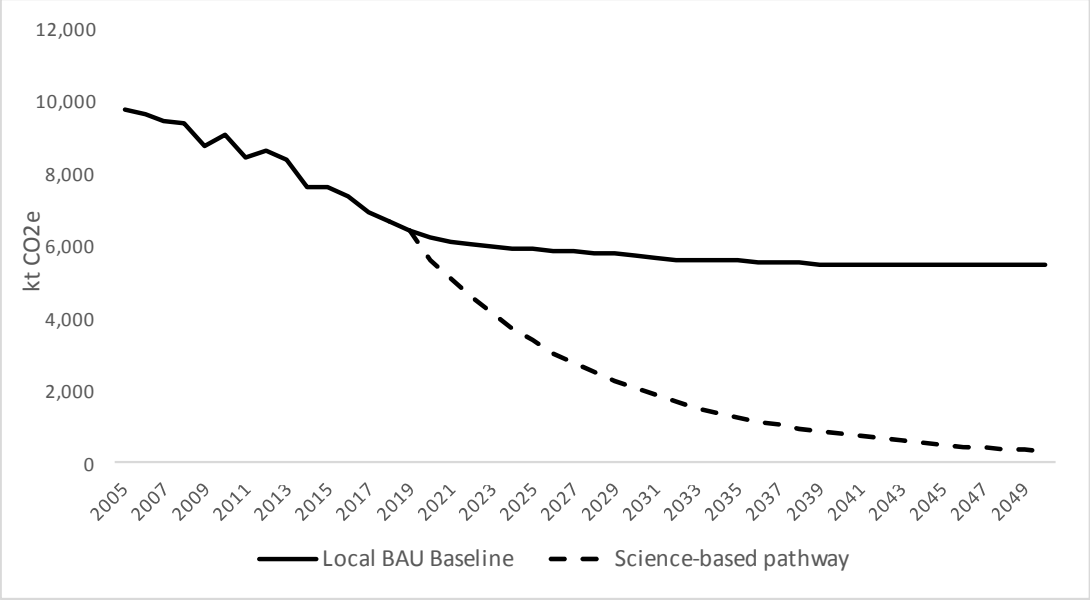


Figure 3: BAU and science-based emissions pathways

What are the Options for Surrey?

Some of what needs to be done will happen outside Surrey – for example through the on-going decarbonisation of electricity or the development of electric vehicles. However, numerous options could also be adopted within Surrey to reduce energy use and carbon emissions in homes, buildings, transport and industry.

All of the evidence suggests that there are unlikely to be many 'silver bullets' that lead to dramatic step changes in a city or town's carbon footprint, but that instead multiple options have to be adopted across all sectors. Our analysis includes assessment of the potential contribution of c.130 energy saving or low carbon measures for:

- households and other public/commercial buildings (better insulation, improved heating, more efficient appliances, some small scale renewables)
- transport (more walking and cycling, enhanced public transport, electric and more fuel efficient vehicles) and
- Industry (better lighting, improved process efficiencies and a wide range of other energy efficiency measures).

We divide these measures into two groups.

- ***The cost-effective options*** where the direct costs of adopting them are outweighed by the direct benefits that they generate through the energy savings they secure. These options may also generate indirect benefits, for example through job creation, fuel poverty and improved air quality and public health.
- ***The technical potential options*** where the direct costs are not (at present) covered by the direct benefits. However, the cost of many low carbon options

is falling quickly, and again these options could generate important indirect benefits such as those listed above.

As it is unlikely that adopting all of the cost-effective or technically viable options will enable an area to reach net-zero emissions, we also highlight the need for a third group of measures:

- ***The innovative or 'stretch' options*** that includes low-carbon measures that are not yet widely adopted. Some of the options within this group may well be cost and carbon effective, and they may also generate significant indirect benefits, but whilst we can predict their carbon saving potential, data on their costs and benefits is not yet available.

What this Means for Surrey

Our analysis predicts that the gap between the Surrey's business as usual emissions in 2050 and the net zero target could be closed by 39% through the adoption of cost-effective options and 65% through the adoption of both the cost-effective and technically viable options. This means that Surrey still has to identify the innovative or stretch options that could deliver the last 35% of the gap between the business as usual scenario and net zero.

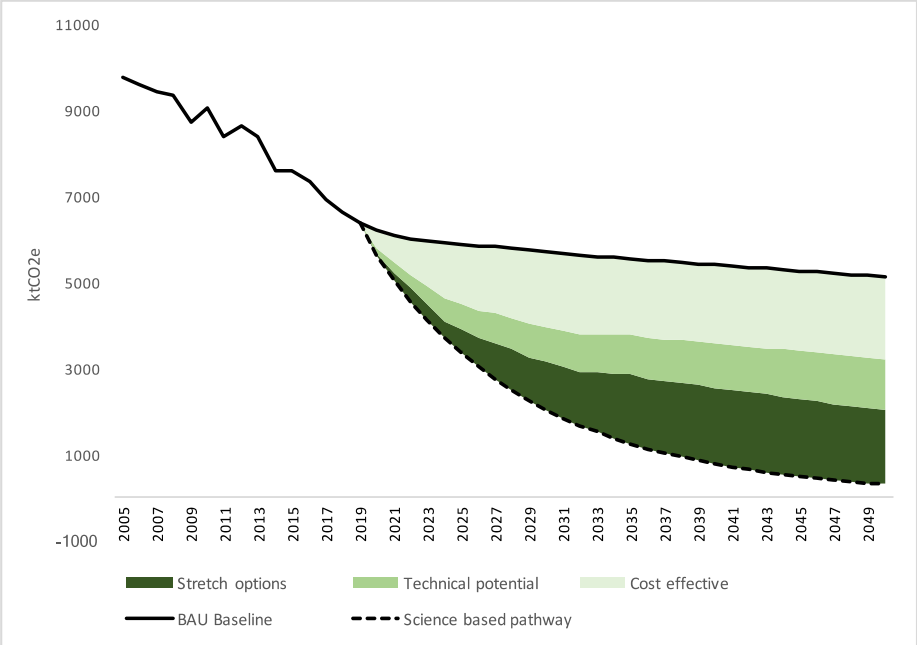


Figure 4: Baseline with the contributions of cost-effective, technical potential and stretch options

Exploiting the cost-effective options in households, public and commercial buildings, transport and waste could be economically beneficial. Although such measures would require investments of £3,587 million, once adopted they would reduce Surrey's total energy bill by £538 million p.a. whilst also creating 6,695 years of

employment. However, exploiting the technically viable options would be more expensive, at least under current prices.

Across the two categories (cost-effective and technically viable options), league tables of the most carbon and cost effective options are presented below.

Most carbon effective options:

Carbon Effectiveness	Cumulative carbon savings over next decade	Measure	Sector
Highly effective	*1 to 5 Mt CO_2*	**Heating** *(boilers, heat pumps, controls)*	Domestic
		Insulation *(cost-effective insulation: cavity, loft and floor)*	Domestic
		Cooling in retail buildings	Commercial
		Boilers and Steam Piping *(cost-effective measures)*	Industrial
		Demand reduction *(minor; heating, lighting and appliances)*	Domestic
Very effective	*500 to 1000 kt CO_2*	**Insulation** *(cost-effective fabric improvements)*	Commercial
		Appliances *(refrigeration, cookers, TVs, washing machines)*	Domestic
		Lighting *(low energy)*	Domestic
		Pumps *(cost-effective measures)*	Industrial
Effective	*100 to 500 kt $CO2_2$*	**Electric vehicles (cars, goods vehicles and buses)**	Transport
		Compressed Air Systems *(cost-effective measures)*	Industrial

Most cost-effective options:

Cost Effectiveness	Total area cost savings over next decade	Measure	Sector
Highly effective	*£500 to £1000 million*	**Cooling in retail buildings**	Commercial
		Hybrid cars (diesel and petrol)	Transport
		Insulation *(cost-effective insulation: cavity, loft and floor)*	Domestic
Very effective	*£100 to £500 million*	**Appliances** *(refrigeration, cookers, TVs, washing machines)*	Domestic
		Demand reduction *(minor; heating, lighting and appliances)*	Domestic
		Heating *(boilers, heat pumps, controls)*	Domestic
		Lighting *(low energy)*	Domestic
Effective	*£50 to £100 million*	**Pumps** *(cost-effective measures)*	Industrial
		Compressed Air Systems *(cost-effective measures)*	Industrial
		Fans *(cost-effective measures)*	Industrial
		Boilers and Steam Piping *(cost-effective measures)*	Industrial

Some of the ideas for innovative options identified elsewhere, that could also be considered for Surrey, include targeting a transition to net zero homes and public/commercial buildings by 2030, promoting the rapid acceleration of active travel (e.g. walking and cycling) and the adoption of electric vehicles, tackling food

waste, reducing meat and dairy consumption and reducing concrete and steel consumption/promoting adoption of green infrastructure.

Next Steps for Surrey

Based on the experiences of other UK cities and towns, 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 the development of an independent climate commission to act as a critical friend, 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 council itself leads the way by integrating climate change into all of its 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 to build a social license for transformative change and to ensure that people and places are not left behind.

ANNEX 3 – SUMMARY OF GOVERNMENT POLICIES – THEMED

Energy

UK's Draft National Climate and Energy Plan (2019) (Department of Business, Energy and Industrial Strategy) sets out how the UK's energy and climate legislation and strategies support the five dimensions of the Energy Union. In summary:

a) Energy security - The UK is committed to ensuring there are secure supplies for consumers, regardless of the energy mix, and the CGS sets out actions to enhance energy security by delivering a more diverse and reliable energy mix. The UK is supporting smarter, flexible networks thereby enabling the integration of clean generation.

b) Energy efficiency - To meet the UK's 2050 climate change target, emissions from buildings will need to be near zero, coupled with action on industrial processes. This requires improving energy efficiency and energy management, and decarbonising nearly all heating and cooling of buildings. To achieve this, the UK is taking a range of actions including addressing barriers to energy efficiency and low carbon investment, such as supporting organisations to access finance.

c) Decarbonisation - Through the Climate Change Act, the UK has established in law the first five carbon budgets covering the period from 2008-2032, with the sixth carbon budget due to be set in 2021. The UK has outperformed the target emissions reduction of its first carbon budget (2008 to 2012) and is projected to outperform against the second and third budgets (2013 to 2022).

d) Internal energy market - The UK Government strongly supports greater electricity trading with our European partners, a further 9.5GW interconnection is expected, beyond the projects which have been commissioned or are in train, in the early to mid-2020s. The CGS outlines the UK's commitment to move towards a more dynamic market, empowering the consumer and realising the potential of renewables, small scale generation, greater flexibility, smart metering and the digital revolution.

e) Research, innovation and competitiveness – Capturing part of the global opportunity while continuing to drive down carbon emissions from our own activities provides a huge economic opportunity for the UK. By one estimate, the UK low carbon economy could grow by an estimated 11% per year between 2015 and 2030 – 4 times faster than the rest of the economy – and could deliver between £60 billion and £170 billion of export sales of goods and services by 2030

Buildings

In 2017, only 7.7% of UK energy for heating and cooling came from renewable sources. Through the Renewable Heat Incentive (RHI), the UK Government is spending £4.5 billion between 2016 and 2021 to support innovative low carbon heat technologies in homes and businesses, such as heat pumps, biomass boilers and solar water heaters. Beyond the RHI, Government's ambition is to phase out the installation of high carbon fossil fuel heating in new and existing off gas grid residential buildings during the 2020s, starting with new homes as these lend themselves more readily to other forms of low carbon heating.

In October 2017 the UK Government published its Clean Growth Strategy setting out its aspirations for improving building energy performance to reduce energy consumption, and ultimately emissions.

The strategy looked at both residential and commercial properties, that are existing and future developments. The key policies contained within this document included:
An ambition to upgrade all homes to Energy Performance Certificate (EPC) Band C by 2035, with all rented and poor fuel homes to be upgraded by 2030
Introducing an industrial energy efficiency scheme, to improve commercial energy efficiency by 20% by 2030

Other key strategies have focused on energy efficiency in new builds e.g. Part L Building Regulations, public and private sector builds e.g. The Carbon Reduction Commitment Energy Efficiency Scheme and energy poverty e.g. Energy Company Obligation (ECO).

The UK Committee on Climate Change and the House of Commons, Business, Energy and Industrial Strategy Committee, have identified that major policy gaps still exist with the UK's building stock remaining one of the most inefficient in Europe.

Waste, resources and the circular economy

Emissions from waste have largely reduced thanks to stringent EU regulation e.g. Landfill Directive and the UK landfill tax. The UK government has moved to focus upon reducing the production of certain waste types altogether namely plastic waste, with the 25-year Environment Plan targeting "zero-avoidable plastic waste by the end of 2042". The 2019 Environment Bill is also seeking to utilise legal powers to set resource-efficiency standards on products, and drive a shift in the market to reduce overall consumption and waste production.

Agriculture, Forestry and Other Land Use

In 2018, the government announced its 25 year Environment Plan which includes a section dedicated to using and managing land sustainably. In implemented in the next parliament, the plan seeks to embed an 'environmental net gain' principle for development, including housing and infrastructure, improve the management and incentives for land management, improve soil health and restore and protect peatlands, expand woodland cover and make sure existing woodlands are better managed.

In June 2019, DEFRA commissioned Henry Dimbleby to conduct an independent review to help the government create its first National Food Strategy for 75 years. The review sought to address the environmental and health problems caused by our food system, to ensure the security of our food supply, and to maximise the benefits of the coming revolution in agricultural technology.

Transport

The Office for Low Emission Vehicles (OLEV) proposed the Ultra-Low Emission Scheme, which set a target, that by 2050, almost every vehicle in the UK will be a low or ultra-low emission vehicle, with key aims to increase the uptake of ultra-low emissions buses and support the improvement of air quality. Government also have long-term ambitions to decarbonise road transport, with a target of 50-70% of new car sales being low emission by 2030. The UK Low Carbon Transitioning Plan (2009) set a target to reduce transport related emissions by 14% on 2008 levels, by 2020, by continuing to improve fuel efficiency, supporting low carbon vehicles, helping people make low carbon travel decisions such as cycling and encouraging transport energy to be sourced from renewables. The government published a Clean Air Strategy in 2019, with a number of commitments surrounding health, protecting the environment, securing clean growth and innovation, reducing emissions from transport and reducing emissions from homes, farming and industry.

Adaptation and Resilience

The UK Government is required, under the 2008 Climate Change Act, to publish a climate change risk assessment (CCRA) every five years, with the third due to be released in 2022.

This is followed by a National Adaptation Programme, setting out the UK Government's approach to dealing with the current and future climate change risks. The most recent version spans from 2018 to 2023 and highlighted heatwaves as one of the most pressing risks, particularly for population health and wellbeing.

However, the UK sub-committee on Adaptation found that of the 56 risks and opportunities identified in the most recent CCRA, 21 have no formal actions in the NAP. Considering the global growth in emissions, and that we have surpassed the 1°C threshold, it is prudent to plan adaptation strategies for a scenario of 4°C, but there is little evidence of adaptation planning for even 2°C.

5

ANNEX 4 – SUMMARY OF WITNESS SESSIONS (experts and officers)

Officer Sessions

Schools/Transport

Witnesses:

Duncan Knox, Road Safety and Active Travel Team Manager
Rebecca Harrison, Safer Travel Team Manager

1. The travel team's main aim is to assess school travel needs and promote more sustainable modes of travel to schools. This is achieved through the following three main strands of work:

- Providing training to give skills and confidence to support more active travel
- Formulating initiatives to promote and encourage more active travel
- Investigating opportunities to improve school infrastructure and provide crossing patrols

2. Modeshift STARS, which is an online school travel plan patrol that had been signed up to by 109 schools in Surrey. 24 of those had achieved bronze awards for their modes of transport used, while one had received gold.

3. Other work that is regularly undertaken:

- Road safety outside school assessments
- The maintenance of 47 school crossing patrol sites
- School Speed Watch
- Golden Boot Challenge - where children receive a point for using sustainable travel to get to school. 150 schools had signed up to take part. No further data collected

5. The Living Streets – WOW Initiative had been delivered to 60 schools over three years and awarded badges and stickers to children for using sustainable modes of transport. The team also offered cycle training to different ages, STEPS Pedestrian Training (a pedestrian awareness scheme), Theatre in Education Drama Workshops (which incorporate pedestrian awareness as well as road safety), and the Air Quality Schools Programme, which seven district and borough councils had signed up to in 2019, providing funding for three classrooms/workshops.

6. The biggest issue the travel team faced with engagement was persuading schools to sign up to the services being offered. The team were looking to introduce a new pedestrian training module as well as trialling a new mobile phone app for the Golden Boot Challenge in November – this would be rebranded as Green Boot.

7. The team are helping to promote the Ashden Awards, where schools sign up to a year-long programme of energy saving. 15 schools have signed up this year, with savings for each estimated to be between £8,000 and £12,000.

7. Increasing the amount of school transport would require significant subsidies from the council, but that Modeshift STARS helps schools to promote public transport locally.

8. More staff and funding is required to allow the team to carry out more road safety assessments and expand projects.

9. Schools are no long required to collate data about modes of transport. Data could be seen from schools that have signed up to Modeshift STARS and the Golden Boot Challenge, and this could be the case for Green Boot Challenge users in the future. The team would like all schools to have a Modeshift STARS travel plan and are looking at ways to market that.

10. As a follow up, a Member questioned if there were any particular ways schools can be encouraged to sign up to Modeshift STARS and related projects. In response, they were informed that the team had taken reports to nearly all of the local committees but that, bar trying to promote the advantages to school communities and their local areas, there is little they can do.

11. Members heard that Buckinghamshire County Council and Hampshire County Council have significant sign-ups for sustainable transport projects. Their success is largely down to the fact that they have dedicated officers while Surrey County Council's team only have three officers for the whole county, and, as a result, Modeshift STARS represents a small proportion of their work. Local authorities like Buckinghamshire County Council and Hampshire County Council are able to mark their projects directly to schools thanks to the dedicated officers at their disposal.

12. A discussion was had about initiatives that have been undertaken in mainland Europe. Officers believe there are examples of infrastructure investment taking place over decades in countries like the Netherlands and that a cultural shift needs to take place in the United Kingdom so that similar investments can be funded.

13. The Road Safety and Active Travel Team Manager spoke about the need for extra resources so the team can spend more time on marketing their projects and initiatives and less on purely delivering and responding to requests. Schools being compelled to undertake sustainable transport projects would also help.

Energy

Witnesses:

Paul Hasley, Orbis Energy Manager

1. The officer notes there is no national ranking performance for councils on their use of green energy, but that he feels the Council is roughly mid-table as things stand as an ambition has been set but the plans are not yet in place. He also spoke about the current level of renewable energy being provided to them by Npower and that the Council is under its current CCS Framework for four years. However, the supply contract is annual, allowing it the opportunity to move away each year if needed.

2. The Orbis Energy Manager said that grid decarbonisation has helped to reduce emissions, as well as increased investment in greater efficiency over the years. There is a model used in West Sussex, where the council were in partnership with Robin Hood Energy, which is owned by Nottinghamshire County Council. This has resulted in investment in solar power generation in their own buildings and schools, as well as the creation of solar farms. Electricity is then effectively supplying their own buildings and has been seen to work. There does not exist a single model that represents the

right solution but several local authorities, such as Bristol City Council and Leeds City Council, are seeking investment and looking to decarbonise. Talking about the aim to become carbon neutral by 2050, the Orbis Energy Manager said that this sounds a long way away but when looking at the infrastructure that is needed to make this possible, the investments being made now are still going to be there in 30 to 40 years' time.

3. The move out of City Hall represents an opportunity to bring the other Council-owned buildings up to standard, while it is hoped that any new buildings will be more fit for purpose.

4. The Orbis Energy Manager notes there is no silver bullet that would make a dramatic difference to emissions but that there needs to be more investment in the generating side. He also spoke about using old landfill sites as PV sites, which is worth looking at from an investment point of view but have associated issues – such as the viability of getting planning permission and any visual impacts.

5. Members spoke about the importance of the Council taking a leadership role in order to be a model for others, across both the public and private sectors, and increasing green energy ratings to increase the value of its buildings and assets.

6. Members and officers engaged in a discussion about how property investment could be linked to energy efficiency. It was suggested that funds to improve energy efficiency could be made available when buying new buildings and assets, and that this could be looked at for the Council's current investments. Regarding opportunities to scrutinise and input on this, it was suggested that this could be added on to the work being done by the Resources and Performance Select Committee.

Pensions

Witnesses:

Neil Mason, Strategic Finance Manager (Pensions)

1. The Strategic Finance Manager explained that the Surrey Pension Fund has a value of approximately £4.8 billion and is around 96% funded (which has risen from 82% since 2016) with 100,000 members in total. The Pension Fund has recognised for some time that climate change factors, without taking any sort of moral position, represent a potential financial risk. Members heard that Mercer helped to look at risks posed by climate change and most conclusions were relevant to the Pension Fund's pension pool provider. He went on to explain that the Pension Fund is pooled in partnership with Border to Coast, which involved 11 other pension funds with a total number of assets – when realised – amounting to around £50 billion. The Pension Fund is currently in the process of building different funds to achieve its different objectives and has transitioned its UK global equity (amounting to around £400m) into BCPP. It is also currently in the process of transitioning a lot of its global equity (approximately £500m). The Pension Fund makes sure that BCPP, when making the procurement for investment managers, takes into account ESG factors and that there is specific expertise in the BCPP team to achieve this. The aim is to better influence change through active managers and robust engagement. A carbon audit of the Pension Fund had also taken place and discovered that, compared to benchmarks, it has a lower carbon footprint than first thought. However, it did find that the Pension Fund's exposure to carbon was concentrated in its UK passive assets, and this is partly because of the FTSE being dominated by oil companies.

2. The Strategic Finance Manager informed Members that the Pension Fund had looked at providing a passive index tracker that had a lower carbon imperative and that £450m of passive index funds have so far been transferred into that portfolio. He also explained that fossil fuel investments have reduced from roughly £231m to £158m but that pressure needs to be exerted across the whole supply chain, not just at the top.

3. In regards to greater divesting, the Strategic Finance Manager said that any decisions need to financially benefit pension holders in Surrey. Markets have moved in the Pension Fund's favour and that the amount reduced in fossil fuel investment is secondary to the fact the Pension Fund moved from UK to global marketplace investments.

4. Members heard that the Pension Fund had recently invested in Glenmont Clean Energy and Pantheon, an infrastructure provider.

5. The conclusions so far from the BCPP Climate Change Working Party (BCPP), seem to indicate that, as a collective as 12 pension funds, BCPP needs to include climate change risk as a measurable risk and as an opportunity to invest in other types of industries. There is a need to work harder with partners and advisors in order to quantify that risk. It has also been established that BCPP's approach to climate change can be further enhanced through asset allocations to infrastructure.

6. Discussing the views of Pension Fund members, the Strategic Finance Manager said officers are not in contact with them directly but have spoken to employers (numbering nearly 300), who, along with Members of the Council, have been invited to a forum explaining the Pension Fund's approach.

Waste

Witnesses:

Richard Parkinson, Environment Delivery Group Manager
Matt Smyth, Director of Joint Waste Solutions

1. The Director of Joint Waste Solutions explained that time had been spent on trying to change resident behaviour through engaging, enabling, encouraging and exemplifying. Nationally, Surrey is in the top two or three counties when it comes to recycling rates. They were as close to the edge as they can go with that education on recycling – it could be made compulsory moving forward.

2. Surrey have focused on working in partnership for several years in order to change behaviours. Surrey also has a good mix of materials that are collected, good collective services and a strong network of community recycling centres which has ensured success.

3. The UK Government has recently consulted on a new National Waste Strategy. This would involve extending producer responsibility, forming a consistency agenda, starting a deposit return scheme and creating a packaging tax. With regards to managing the logistics of the producer responsibility from a local authority point of view, Members heard that consultations have seemed to develop in isolation and the

challenge is now to weave them together and make sure that a coherent set of proposals are formulated. Surrey will be better placed in the marketplace if they can deal with some of the materials themselves. Infrastructure changes are needed as three million tonnes of municipal waste is produced in the south-east every year.

4. A discussion was had about the work that is being undertaken with neighbourhood partners and adjoining counties. The Director of Joint Waste Solutions said that there is more that can be done but that there are issues with the two-tier system in Surrey, as the costs sit in one place and the benefits in another. He went on to speak about the Surrey Environment Partnership and said that the SE7 report would be shared with Members.

5. The Environment Delivery Group Manager talked about the need to work outside county borders, as operating a service by looking after individual pots was not the most efficient way of working. The Surrey Environment Partnership is attempting to break down the barriers between district and borough councils and Surrey County Council in an attempt to create efficiency. Joining up collection and disposal would make a lot of sense, and engagement with unitary councils would make this process easier for them.

6. Members heard that, in relation to the amount of waste produced per capita, Surrey was in the top two in the country, with Runnymede in particular producing very little waste per head.

7. A discussion was had about the need for increased conversations and engagement with residents on waste. That has been significant use of the waste search tool, available on council websites, that shows what can be recycled in each specific authority. 145,000 people had used it last year, with 70,000 using it so far since April 2019. Members also talked about challenging the notion that good behaviour is concerned with recycling, not cutting down waste production, and the need to research Runnymede's levels of waste consumption and promote them as a model of best practice.

8. Surrey needs to start developing places where it can start the recycling process. The Director of Joint Waste Solutions talked about needing to invest more money in both helping to change behaviours and improving infrastructure. He also suggested co-owning the waste agenda rather than co-operating, which would make it easier to respond to issues and would ultimately save money.

Procurement

Witnesses:

Anna Kwiatowska, Head of Procurement (SCC)

1. All suppliers are required sign up to code (implemented couple years ago), all suppliers aware of conduct across the board. Procurement are working towards encouraging suppliers to follow sustainable processes and programmes.

2. There are different environmental concerns for different sectors, these are built into contracts. Environmental regulation is most applicable to the

construction and transport sector, there are also policies which support e.g. sustainable timber policy.

3. There is a 'Social Value Charter' – a tool to encourage suppliers when submitting a tender to offer added value (using environmentally friendly service).

4. There has been some progress made over recent years on emissions reduction e.g. shift to low emission vehicles, plastic reduction. However, currently the carbon footprint of providers is not measured, and the IT cost of disposal can be prohibitive.

5. Moving forward there needs to be legislation changes that promote environmental conscious behaviour e.g. manufacturer responsibility for packaging. At the procurement stage the evaluation process needs to be transparent but also carried out by professionals working in the environment field – balancing the need for quality, speed of service and budget.

6. National standards could go beyond what is the current status, and procurement rules may alter after Brexit – moving from being informed by EU to national regulation.

7. Need to look for a more joined up approach for procurement, recognising with partners an approach for assessing and increasing the co-benefits of solutions. Members could work alongside the Procurement team and commissioners to ensure that policies are update to allow us to maximise value and ensure a shift to a more carbon focus such that it becomes normalised.

8. Outsourcing has driven up the carbon footprint of our services as they are moved from in-house to further away. Previous engaged with a consultancy to look at the carbon footprint of all of our suppliers. Should require this of our suppliers moving forward.

9. Need to switch our strategy to be proactive and not reactive focusing on the longer term – this approach has been affected by cuts. Environmental improvements in services could act to also reduce costs.

10. Improved partnerships with boroughs and districts is required, as well as other sectors. This could also include working more closely with East Sussex and Brighton who have focused more on sustainable procurement in recent years.

11. Existing contracts and strategies need to be reviewed considering the current approach and developing a consistent approach to sustainable procurement, which may include:
    - Minimum and best practice standards
    - Place based procurement
    - Creative and forward looking solutions.

Transport

Witnesses:

Paul Millin, Strategic Transport Group Manager

1. 5% social value given in procurement which is not a meaningful consideration, cost is a main consideration. The marketplace needs to respond better to the demand, but will take time to evolve.

2. Children are often required to travel significant distance across the county to reach their required sources – which leads to significant financial, environmental and social costs. Clustering of service could reduce this demand for travel.

3. Transport review highlighted the need to deliver better value whilst making savings.

4. There needs to be better integration of services and between different modes of transport. The Rethinking Transport initiative will look at this bringing together of different sectors to create a tighter framework.

5. Need a set vision to understand most effective way of achieving zero carbon – scaling up of public transport or focus on electrifying bus routes – and also consider commercially viable options. This vision needs to be broad considering not just school travel plans but work cycle plans for example – cycle planner needs to be employed by SCC

6. Vision for urban areas and rural villages and main transport corridors needs to be integrated.

7. Specific targets need to be set that are evidenced based with basic parameters.

8. The policies taken need to be commercially viable and sustainable use of funds. Currently the commercial rates are high – landscape needs to be changed.

9. Approaches need to be community led that focus on safer ways.

10. There are no peer authorities that are more advanced in this sector who have chosen a path for us to follow – not comparable to Surrey (differing sizes, cities).

11. There are best practice examples from the Districts and Boroughs, e.g. Guildford to go electric next year, Woking has had its first walking and cycling scheme funded.
12. Need to encourage behaviour change – working better with boroughs to make small steps – resource based and planning for when money becomes available

13. Need widespread infrastructure – behaviours on same level (parents still driving to schools make unsafe for those trying to walk/cycle).

Planning

Witnesses:

Caroline Smith, Planning Group Manager

1. History in working in partnership with B&D – Surrey Futures, all B&Ds and LEPS all signed up

2. Nation Planning Policy Framework :

    - Need to lobby the UK Government to change the National Planning Policy Framework UK Government to set out the need for planning to contribute to sustainable development (active role in guiding developing towards sustainable solutions).
    - Climate in one of number of issues in planning but Government hasn't given specific guidance - it is embedded in plans but no specific focus
    - The ability for planning to have input to priorities reduces due to prime economic need to build more houses – led to lighter touch last 5-8 years
    - High bar set to get over to support daily demand – role changed to damage limitation and mitigation – pro-active side of role.

3. Surrey Place Ambition is intended to be a developing document within which an environmental appraisal/sustainability framework could be added. Asset and Place Strategy – as above – will determine where development will be located in the next 30 years (covers strategic corridors). Carbon doesn't feature in either reports – there needs to be an increased focus on sustainability.

4. Planning policy:
    - Need to access early stages of planning policy – putting sustainability on par with need to meet demands on housing development.
    - Planning permissions being granted and houses not being built – government won't achieve objective by putting pressure on local governments (soft pressure)
    - As a planning consultee – have to comment on application as it is, so could have greater influence
    - Restrictions and rules within boroughs and districts which they set themselves and planning must follow
    - Widespread standard across Surrey – all schools (targeting, modal breakdown) – consult B&D's to adopt same standards
5. Design:
    - Improved sustainable design, permeable layouts, and facilitating active travel.
    - Design in terms of orientation of buildings to maximise solar gain (BREAM Outstanding), reduce amount of energy needed to run properties. Incorporation of charging points, solar panels.

- Exemplar with own developments - create a Surrey Schools standard – guidance to set out aspiration and benefits.
- Decision made by Procurement on cost but we're using loans – and funding is available (SALIX) revenue paybacks to be included

6. Waste Natural Plan is being reviewed/updated and then the Minerals Plan will be reviewed starting next spring.

7. Renewables energy:

    - Document to be development showing the local of renewable energy installation, this can be done in conjunction with District and Boroughs, focusing on government owned land. Document showing land where should have renewable energy technologies – identify preferred sites (mapping).
    - Should facilitate community agreement for wind farms etc. (community agreement necessary)
    - Guidance on solar PV/renewable energy on Green Belt, how do we maintain Green Belt and not turn into Brown Field, i.e. without foundations
    - Use existing buildings (schools) to attach solar panels – already brown field sites

Air Quality

Witnesses:

1. Lung and heart conditions – effect between 28,000 and 36,000 deaths a year in the UK – contribute to but have not caused (rough estimates).
2. Air quality data:
    - There is a granular level of understanding about air quality – report in progress. Surrey data will help to encourage or initiate action/change and direct funds – increasing emerging evidence in links with air pollution.
    - AQ modelling exercise carried out for a baseline (local data which could be shared) - looking to repeat in 5 years' time – not published – need to discover how to package – not raise anxiety but raise as issue
    - Districts and boroughs measure air quality – if potential breach – have to create action plan of how issue will be addressed.

3. There is a balance required between climate change and health - particulate matter is an important focus for health, burning wood better than coal to decrease CO2 but more particulate matter

4. Behaviour change:

    - There needs to be a focus on conserving energy and active travel
    - DEFRA – fund money to deliver air quality schools programme and carried out media campaign promoting active travel to improve air quality (park and

stride) – continuing programme. Evaluation report suggesting impact was significant on behaviour change
- AQ could be a real driver for climate change mitigation as public understand this

5. Joint approach
    - Connection with transport Team – embed health in their thinking and decision making – working across the council (countryside team).
    - Link into Surrey Place Ambition.
    - Planning – developed guidance on healthy build environment (finalised next month, November).
    - Forum launched in November – provide space for planners and health colleagues to work together.
    - Planning - Public health England – healthy street approach – planners can identify what to focus on.
    - Encompass healthy schools/workplaces (framework) – eco schools award

6. Our solutions
    - Working with B&D on planning guidance- i.e. log fuelled fires, air quality schools programme – theatre production, lessons, monitoring in schools sites, media campaign (last year) targeted at young people travelling to schools, park and stride (park away and walk in) raising awareness of how to reduce exposure to poor areas of AQ. This programme and campaign will be continued this year and will include creation of an app for families travelling to school to monitor and reward
    - Work with Active Surrey – sports partnership to promote active travel and health.
    - Developing a health and wellbeing strategy – to work across different work areas to link to health, wellness (including air quality). Work with Transport team to embed health in their strategies.
    - Developing a public health indicator to prioritise PH and AQ into decisions.
    - Planning and Health Forum being set up (including Surrey Futures work) for Planner and Health colleagues to work better together. Healthy schools (or healthy businesses/work guide) to include climate change.
    - Surrey Air Alliance set up to work in partnership with B&Ds – funding is an issue, transport solutions can be identified but the funding isn't always there.
    - Eco schools award

Expert Sessions

Witnesses:

<u>EnergieSprong</u>

13. ES creates net zero energy houses - the house generates all of the heating and electricity that it needs and is extremely well insulated so much less heating is

required. Houses are off the gas grid and have an energy unit (ground or air source heat pumps, thermal store and battery) as well as solar PV for electricity.

14. It is an outcomes based, whole system approach to retrofit and requires a new market approach/transition where net zero energy retrofit factories are established in the UK.

15. The important thing is that the builder/manufacturer completes the whole job and that no tech is specified so the design chain can design the most effective solution for each property.

16. The building outcomes (i.e. minimum standards) are specified

17. The cost of the works are covered by the savings in the energy bills of the dwelling once the works have been completed. This works because the builder/manufacturer underwrites the loan (again this is only possibly if they have full control and are responsible for all of the parts of the job

18. This is well advanced in the Netherlands and other European countries, in the UK pilots in Nottingham (Mielas Homes), Essex and Mayor of London has signed up to a 3 year programme

19. Findings show that house prices are increased by 25% post retrofit.

20. This works best (initially) with social housing and housing associations as it's possible to develop the market on these properties which are under the control of organisations (rather than privately owned) and are often more uniform so possible to do a whole street approach.

Woking Borough Council

Woking Borough Council adopted their first climate strategy in 2002. Woking 2050 is their current climate change strategy, adopted in 2015, which is not just about carbon, but has a wider focus on the way of living and how this interacts with the environment. The Boroughs goals are to protect and enhance high quality natural environment, ensure resources are used wisely and biodiversity is conserved and building an environment that is developed sustainably. Woking BC has a Climate Change working group who monitor the delivery of Woking 2050, with members from the community, business, environmental organisations, councillors and council officers.

1. Green Initiatives
    - Refill Woking – free water bottle refill scheme available at numerous locations across borough
    - Electric vehicle charging points – available in Woking town centre for the public
    - Car Club – loan a car on a pay as you go basis

- Rainwater gardens – guide for creating landscaped areas designed to help slow down surface water run-off.
- Town centre swift and bat sign – plans for a sign with elevated bat and swift nesting chambers in Woking town centre
- Action Surrey – advice on home energy efficiency solutions and funding
- Woking Local Action 21 – volunteers involved in local environmental issues
- Woking in Bloom – annual borough-wide competition to celebrate the gardening excellence of residents

2. Buildings:
    - Woking BC have provided a Climate Neutral Checklist to encourage sustainable development to a high standard, encouraging further thought toward the impacts on the environment through the development process.
    - New Vision Homes (NVH) the councils housing management partner, invested £5.7m into the existing housing stock as part of the asset management programme. £500,000 of which was focused on improving the energy efficiency of blocks through external wall, cavity wall and loft insulation programmes.
    - Policies' CS22 and CS23 of Woking BC's Core Strategy set out a requirement in which planning applicants need to show, in a statement submitted with applications, how the proposed development will meet the sustainability requirements, including low carbon energy requirements.

3. Transport
    - **Woking Integrated Transport Project** – multi-million pound highway improvement project (partnership with SCC and WBC) which will transform highway network and significantly enhance traffic flow in area and make it safer for cyclists and pedestrians whilst stimulating economic growth in Woking town centre.
    - **Woking Sustainable Transport Project** – SCC and WBC developed proposal for package of schemes that will make it easier to travel on foot, by bike and by bus to and from the town centre and railway station.
    - So far, Woking BC have achieved several changes including creating new bus lanes, creating new pedestrian areas, relocating taxi ranks, resurfacing bus bays, extending the high street, widening pedestrian foot paths and incorporating contra-flow cycle lanes.

4. Countryside
    - **Natural Woking –** adopted in 2016, a strategy for biodiversity and green spaces, setting out the council's strategic direction for sustainable Woking, ensuring biodiversity protection whilst enhancing accessibility to natural habitats and wildlife. Woking BC's Core Strategy says by 2027 the Borough will be: 'A green Borough where people will have easy access to good quality open spaces and infrastructure for recreation and leisure'. The following list summarises the guiding principles for this strategy: living spaces, access, urban life, productive places, responsive, wild about Woking, and local.

5. Waste: **Single use Plastic Policy** – adopted in July 2019, working to identify ways to reduce avoidable single use plastic. So far Woking BC have:
    - Removed plastic water bottles from Council meetings saving approximately 720 bottles a year.
    - Launched Refill Woking in Woking Town Centre at the end of September 2018. With the help of Woking Shopping, there are now over 20 participating cafes and restaurants.
    - Installed two new bottle filling stations in Albion Square (soon to be commissioned) as part of the railway station refurbishments encouraging people to refill their bottles on the move.
    - Introduced segregated waste bins across the Council offices to help staff do their bit to improve recycling rates.
    - Continued to provide residents in Woking Borough with a kerbside recycling service to enable them to recycle plastic bottles, pots, tubs and trays. Cartons and cups can be recycled at the mini recycling sites located at supermarket car parks.

New Economics Foundation

1. There are two facets to NEF's work; as a think tank researching and influencing to achieve a new economy and consulting to offer practical applications of their ideas.

2. NEF is a registered charity and its consulting arm is set up a social enterprise under the charity.

3. They have been working with some Local Authorities on their approach to tackling climate change. Notably, LBs of Haringey and Croydon. The former is implementing their ideas while the latter is setting up an external assembly to hold it to account on its progress.

4. NEF talked about how they could help Councils with economic planning and systemic change while involving communities to avoid negative response to change from residents.

5. They emphasised the need to bring people along with changes and to have a constant conversation. They acknowledged the point that there is a need to move beyond merely politically acceptable policies to environmentally necessary ones but that this was challenging.

6. It was their view that changes at a national level would make this easier for local government to implement.

7. NEF suggested Councillors ask what the council can do and to consider the implications of these actions. There needs to be clarity on the role of local government; does it provide funding, create the necessary policy environment or try to influence change? Alex Chapman thought councils needed to start their process of change, engage with communities and learn as they go.

8. The call moved on to discuss retrofitting work in Haringey, Leeds City Council's independent climate commission and the compliance of developers to green planning rules in Milton Keynes.

9. Members asked what NEF considered to be policy barriers. They mentioned planning rules and the ability of developers to avoid penalties. Local Authorities cannot rely on private sector goodwill alone. Flexibility on public transport was another issue for local authorities outside of areas like London and Manchester. Local Authorities are also constrained by the need to meet their duties under financial pressure.

10. Finally, NEF considered themselves to be a conduit between local and central government on climate change and wanted to compile local government's policy needs and wants to influence national policy.

Centre for Alternative Technology

1. The Task Group heard from the representative from the Centre for Alternative Technology (CAT), who introduced them to the work the organisation does. He also explained Zero Carbon Britain in more detail and highlighted the main areas that the report deals with – namely making changes to buildings, transport systems, food production and consumption, and behaviours, as well as investing in non-nuclear renewable energy.

2. The representative from CAT went on to talk about the importance of food production and consumption and the impact this can have on carbon emissions. He said that one of CAT's main focuses is on promoting a healthy low carbon diet, which can be achieved through dietary change, food waste reduction and improved agricultural practices. This could result in greenhouse gas emissions from agriculture being reduced by as much as 75%.

3. A discussion was had about making sure that the Council has a balanced energy supply, as well as the potential use of smart appliances and batteries. Members spoke about how important it is that all Council-owned buildings are as energy efficient as possible and that this should be a key consideration in the procurement process. The representative from CAT mentioned about the importance of having 'Passivhaus' standards in new buildings and the retrofitting of existing buildings, although the costs involved in this represent a significant challenge.

4. The Task Group also discussed what could be done to help change how Surrey residents travel. They spoke about the need to promote greater use of public transport, as well as making it possible for more residents to walk and cycle. They also discussed the importance of the Council itself taking a lead on this and promoting more sustainable means of transport to its staff so that it can be seen to be leading the way and setting a good example.

5. Members spoke about the need for the Council to lobby central government and make sure the voices and views of local authorities are heard.

6. The representative from CAT talked about the importance of engaging with residents and spoke specifically about the role the arts can play. He asked whether there are suitable arts venues in Surrey that can be used to engage with residents and better understand their views and what they can do to help.

Hurst Park School

1. Hurst Park has been a Green Flag Eco School since 2006, the staff, students and parents are all very committed and it has now become part of the school ethos (it's included in job adverts etc.) It is also a key point in the School Development Plan. The school is very keen to have solar PV installed on the roof to further improve their environmental credentials. KS to look into this.

2. Schools are very resource and funding restricted. In order for more schools to become Eco Schools they need support from an experienced Eco School (Hurst Park are already offering their expertise to other local primary schools) as well as pump prime funding (to cover the cost of joining, other schemes that would benefit, such as the Golden Boot Challenge/ Living Streets etc.).

3. Hurst Park measure their electricity use (this is done by the caretaker using meter readings which sometimes the students also take) however their gas bills are not accurate as they are paying off a debt made erroneously at their previous school site.

4. They recommend that if we need to start collecting CO2 data from schools (i.e. gas and electricity use etc.) that a website/programme is produced for school managers which make it as easy as possible for them to complete.

5. Hurst Park has done a lot of work to raise awareness around air quality, including a funded programme with the London Sustainability Exchange, which included putting air pollution monitoring tubes around the school site and neighbouring locations to monitor air pollution levels. This data was fed into maths and science lessons. The school has also done an anti-idling campaign and does a lot of work monitoring how children travel to school (as part of Living Streets each child updates an online questionnaire explaining how they travelled into school each morning and if they don't come by car for 3+ days per week they get a special badge

6. Opportunities to improve safe and sustainable school travel are identified and put in the School Travel Plan (including a proposed pelican crossing on the Molesey side of the school which could encourage more students to walk and cycle to school.

7. The curriculum is quite limited on climate change however HP look for opportunities to bring climate change in to a range of subject areas

Bristol City Council

1. The Task Group heard from the Sustainable City and Climate Change Manager, who explained that he was leading on Bristol City Council's (BCC) response to the climate emergency and related policies and strategies. He went on to say that BCC had been focusing on climate change for over 20 years and had enacted its first climate change policy in 2004. Recently, it had widened its scope from just energy and

transport and was now taking a much more active role across as many areas as possible.

2. The Sustainable City and Climate Change Manager went on to discuss BCC's solar programme and explained that 15 years ago it had become the first council to install a solar panel on a council building. Its energy service then developed significantly, and this was largely driven by a realisation 10 years ago that the whole was greater than the sum of its parts. He told the Task Group that one of the main challenges was taking ideas through to approval and implementation, but that once you get flowing, projects start to become more self-regulated and flow from one to the other.

3. The Task Group heard about BCC's belief that it, and other local authorities, need to become an active player in the energy system and that it is imperative for local initiatives to be created. BCC feel they need to be able to produce, distribute and sell the energy that they are creating themselves, and this is taking place through the Bristol Energy Company, which is wholly owned by BCC and operates in the market.

4. Discussing funding, the Sustainable City and Climate Change Manager explained that this initially came from council funding and included some EU funding as well. The energy company is not yet generating reserves but is helping.

5. Responding to a question about setting up an energy company, the Sustainably City and Climate Change Manager explained that it takes a long time and a significant amount of capital investment. He also said that it is a harder environment in which to operate and recommended sourcing energy from existing municipal companies such as Robin Hood Energy.

6. A Member asked about BCC's waste strategy – in particular its strategy for foo waste and cardboard collections – and was told that waste services had been brought back in-house as part of Bristol Waste, and that is now run directly by the council.

7. A conversation was had about BCC's use of technology and agile working. The Sustainable City and Climate Change Manager explained that the council promote hot desking across all of its buildings and have seen a reduction in energy consumption. He went on to say that he personally has not had a fixed desk since 2007 but that hot desking is inappropriate for a small number of staff due to the nature of their jobs.

8. The Sustainable City and Climate Change Manager spoke about the carbon zero training that had been undertaken with BCC staff members. He directed Members' attention to the Climate Literary Project and recommended that the Task Group looks into that. He explained that the cultural shift that has taken place at BCC has been a continual process after an initial push between 2004 and 2007. It has been largely about maintenance since then, but clear leadership from the Mayor and active officers helps.

9. With regards to the aim of becoming carbon neutral by 2050, the Sustainable City and Climate Change Manger explained that BCC has only scratched the surface. They have consultants working on energy and transport emissions and what needs to happen if that goal is to become a reality. A ramping up of heat provision is needed, as well as procuring in a more sustainable way.

10. The Sustainable City and Climate Change Manager went on to talk about transport emissions, explaining that is one of BCC's main areas of focus. He spoke about trying to get people living more centrally in an effort to tackle car use, as well as

increasing the already high rates of residents cycling and walking. The challenge is decarbonising transport, and that needs to be done through reducing the total number of miles in a resident's journey so that demand can be reduced. Infrastructure costs then go down.

11. Members discussed the bring together of agendas, with the Sustainable City and Climate Change Manager explaining that he tries to talk about the co-benefits of things such as fuel poverty, health, active travel and air quality so that issues can be tackled across a multitude of different, but nonetheless connected, areas. An example of working together can be found in transport, where some public health officers are located in an attempt to increase partnership working.

12. Regarding the data collected on emissions, the Task Group heard that BCC use real-time monitoring so they know how much energy is being used. This has resulted in a 72% reduction in corporate emissions over the last decade. BCC needs to understand where its big costs are so it can embed a carbon focus within the procurement process.

13. Talking about transport and, in particular, the use of freight for food and supplies, the Sustainable City and Climate Change Manager spoke about any changes to freight needing to be introduced by national legislation but that BCC, and other local authorities, need to connect with their neighbouring authorities better to bring down emissions. Members then went on to discuss the use of community allotments, with the Sustainable City and Climate Change Manager talking about BCC's Going for Gold and the 7,000 allotments in the city.

14. A discussion was had about the benefits of tackling issues as a unitary authority, as the Mayor helps in terms of the clarity of direction and is able to set out a clear vision at the start of the term.

15. The Sustainable City and Climate Change Manager emphasised the importance of local authorities not stamping out community initiatives and taking a paternalistic approach. Residents need to be kept onside and engaged fully. At BCC this has taken place through a major amount of public engagement with members of the community and artists, as well as the running of events.

Exeter University

The University of Exeter is at the forefront of environment and climate change research to ensure substantive action based on evidence and science. The University has declared an environment and climate emergency. In September 2018, the University of Exeter announced a new carbon reduction target that commits the organisation to achieving a 50 per cent reduction in energy-related carbon emissions by 2026 in comparison to 2005-06. As part of this commitment, the University approved the first phase of its 2016-2026 Low Carbon Commitment Implementation Plan. This first phase of projects includes solar PV installations, energy-efficient lighting, and upgraded insulation and boiler replacements to be delivered over the next two academic years. The current targets and implementation plan will be revised in acknowledgement of the environment and climate emergency.

1. Businesses who want to become more sustainable could get 40% off the cost of the project by working with University of Exeter's Centre for Energy and the Environment

5

(CEE). CEE delivers bespoke research and development services, consultancy and Knowledge Transfer Partnerships (KTP). The centre's core expertise is in **energy performance and comfort of buildings**, but highly skilled staff can work on broader challenges such as transport and waste.

2. Devon County Council worked with CEE on the delivery of the UK's first zero carbon school (Montgomery Primary School). The CEE helped with securing government funding and the detailed design of energy performance, natural light and acoustics.

3. Projects:
    - **Exeter Energy** - Brings together over 140 individuals from across all disciplines at the University to collectively make sense of and facilitate transformation to sustainable energy systems.
    - **Food and the Circular Economy - South West** - A major new two-year research project exploring the opportunities available to, and challenges faced by, small and medium-sized enterprises in the food and beverages manufacturing industry as they transition towards the circular economy.
    - **The FutureGas project** - Investigating the future of the Danish gas system in the context of decarbonisation. The Energy Policy Group at Exeter is providing a comparative UK case study for the FutureGas project. The goal is to stimulate; 1) an efficient and economical supply of gas – including gas based on renewable sources, 2) an appropriate and flexible use of these gases, and 3) an optimal integration of gas in the overall energy system.

University of Hertfordshire

1. University of Hertfordshire is doing some workshops focussing on future mobilities for counties. This work uses Hertfordshire as a test case. Hertfordshire is very similar to Surrey with regards public transport infrastructure and reliance on private car use.

2. Department for Transport are doing some work/research into the future of rural mobility (not yet published).

3. Stephen has promised to share a briefing paper (not received yet) which he set out some initial recommendations to Jonathan Essex.

4. His initial recommendation relates to Planning (see transportfornewhomes.org.uk) we should work with the B&Ds to avoid unsustainable developments in unsustainable locations and do some work on the Highways Standards and Design - some standards are meant for A roads and not roads in development - they therefore prohibit walking and cycling.

5. Recommendation: focus for new roads needs to be on pedestrians, cyclists and not car users.

6. In 2017 new powers came in regarding the control between local authorities and registration of bus services (which mean more control of the LA over commercial bus routes and how these are delivered) Hertfordshire are looking at enacting these powers to ensure buses are greener and more efficient.

7. Cornwall CC is a good example of integrating public transport network in a rural community. They have created transport hubs at railway stations to encourage people to take public transport/cycle rather than drive.

8. More should be done with businesses and schools on travel planning and creating a sustainable transport community - reserve parking spaces for car sharers and other incentives.

9. Look at Hertfordshire's Go Travel Solutions and speak to Mel Mellit at SCC

5

ANNEX 5 – SUMMARY OF RESPONSES FROM CALL FOR EVIDENCE

Organisation	Theme	Lead contact	Contact
Bristol City Council	Cross-cutting	Alex Minshull	Interviewed
Centre for Alternative Technology (Zero Carbon Britain initiative)	Energy	Paul Allen	Interviewed
Energiesprong	Energy / Buildings	Ian Hutchcroft	Interviewed
Hurst Park Primary	SCC	Lee Beresford	Interviewed
New Economics Foundation	Energy / Buildings	Elizabeth Cox	Interviewed
Transport Consultant (University of Hertfordshire Smart Mobility Unit)	Transport	Stephen Joseph	Interviewed
Woking Borough Council	All	Tracey Haskins / Lara Beattie	Interviewed
University of Exeter	Energy	Rebecca Willis, Jess Britton	Interviewed
A-Team Foundation	Agriculture	Robert Reed	Information submitted
Stroud District Council	Cross-cutting	Rachel Brain	Information submitted
United Kingdom Green Buildings Council	Energy / Buildings	John Alker	Information submitted
United Kingdom Without Incineration Network	Waste	Shlomo Dowen	Information submitted
Waltham Forest	Cross-cutting	Ana Lopez	Information submitted
Centre for Sustainable Energy	Energy	Rachel Coxclean	To be interviewed
Community Supported Agriculture	Agriculture	Page Dykstra	To be interviewed
St Francis School	SCC	Maria Wheeler	To be interviewed
Sustain	Agriculture	Kath Dalmeny	To be interviewed
Wiltshire County Council	SCC	Paula Tucker	To be interviewed