Wiltshire
BE THE CHANGE

April 2021

TOWARDS A CLIMATE STRATEGY FOR WILTSHIRE

Summary Discussion Document

Wiltshire Council

Your role

Developing a shared vision and delivery plans

Wiltshire Council invites feedback from stakeholders on this summary document. Your input will enable us to prepare a draft of our Climate Strategy for wider consultation in autumn 2021. A full version of the Discussion Document is available here.

A range of delivery plans will be required in addition to the Climate Strategy. An updated Carbon Neutral Council Plan will support our carbon neutral commitment as an organisation, and Wiltshire Council's Climate Change Adaptation Plan will also be updated.

While the strategy is being developed and finalised it is crucial that we continue to implement immediate carbon reduction measures and strengthen our resilience efforts. Progress will continue to be reported to Wiltshire Council Cabinet and Full Council twice a year.

Your role

Please give us your feedback on this document summary and what you would like us to include in our Climate Strategy by emailing climate@wiltshire.gov.uk To support your feedback please could you consider the following 3 questions?

1. What do you feel are the 3 priorities for Wiltshire (not just the council) in becoming carbon neutral by 2030?
2. Does the organisation you represent have carbon neutral targets? If so what are they?
3. In what way could you support the council's Climate strategy?

Comments will be open throughout the engagement period in Spring 2021. Formal public consultation on our draft strategy will take place in Autumn 2021

Updates on the development of the strategy and how you can be involved will be available on our website.

Introduction

This discussion document is a precursor to a new Wiltshire Climate Strategy. It provides an overview of the scale of the challenge and the opportunities ahead.

The council has declared a climate emergency, committed to becoming carbon neutral as an organisation by 2030, and to seeking to make the whole of Wiltshire carbon neutral too. This will enable the county to seize the opportunities of a green economic recovery, generating thousands of new jobs and bringing significant health and financial co-benefits to residents.

Globally the planet is one degree warmer than before the industrial revolution and this is already causing significant climate impacts. While we try to reduce the effects and impacts of climate change, Wiltshire Council also needs to adapt to a changed climate.

Government has pledged to reduce national emissions by 68% by 2030 and for the UK to become carbon neutral by 2050.

Government data shows that the key sources of CO_2 emissions in Wiltshire are: transport (45%); industry, commercial and agriculture (29%); and homes (26%). Electricity has been a key focus for decarbonisation nationally, with continued work needed. However, electricity accounts for only 19% of energy use, and more than a quarter of Wiltshire's energy consumption is for heating using natural gas, with heating oil also widely used in rural areas. Decarbonisation of heat and transport is therefore key.

Wiltshire's existing renewable energy installations, of which 85% are solar photovoltaics (PV), have the capacity to supply around one third of the county's electricity requirements. Wiltshire Council directly accounts for only 0.5% of the county's emissions but it can use different levers of influence to effect change across a much larger proportion of the county's emissions, e.g. through supply chains, planning, employee travel, council housing and working with schools and residents.

The document sets out the challenges and opportunities in relation to carbon reduction and climate resilience ahead against six delivery themes:

- Transport and travel
- Built environment
- Energy generation, storage and distribution
- Green and circular economy
- Natural environment, land use and farming
- Carbon neutral council

Towards carbon neutral:
Our overall challenge

In February 2019, the council declared a climate emergency and committed to seek to make the county of Wiltshire carbon neutral by 2030. To this end, in July 2019, Wiltshire Council pledged to become carbon neutral by 2030. The pledge relates to the council's carbon emissions (or 'carbon footprint') that are within its direct control, i.e. those from its operations and buildings. In order to fulfil this commitment, the council's carbon footprint will be drastically reduced compared with its current footprint and any residual emissions will be offset.

Defining carbon neutral and net zero

Net zero carbon emissions' or 'net zero carbon' is conceptually the same as carbon neutral, though there are some different technical specifications in use. Carbon neutral means to result in no net release of carbon dioxide (CO_2) into the atmosphere and should take into account schemes which offset carbon production.

When we talk about 'carbon' emissions this means the full range of greenhouse gases unless stated, and these emissions are measured as carbon dioxide equivalents (CO_2e).

National policy

According to the most recent report from the UK Committee on Climate Change (CCC Sixth Carbon Budget Report, December 2020) we still have the opportunity to turn the situation around and it is achievable, and affordable.

This report and other studies show that many of the solutions we need are already developed. We therefore need to base our immediate action on existing technology and solutions, while innovating for the longer-term solutions. The UK Government's Ten Point Plan for a Green Industrial Revolution sets out intentions for the economic recovery post Covid-19, and puts supporting green jobs and the net zero carbon goal at its centre.

Many of these measures will deliver 'co-benefits', for example the reduction in fossil fuel use will decrease air pollution as well as carbon emissions. While trees are absorbing carbon dioxide from the air, the woodlands created will also boost wildlife and provide accessible green spaces which is of proven benefit to health and wellbeing.

National policy is changing rapidly in the run up to the United Nations Climate Summit, COP26 to be held in Glasgow in 2021, when the commitments from all countries who have signed up to the Paris Agreement will be reviewed. As the host nation, the UK is seeking to provide ambitious leadership.

National direction of travel

The 10 Point Plan and the Sixth Carbon Budget report indicate that the national route towards carbon neutral is likely to include:

- Vehicles will be electric, though mileage is not predicted to fall significantly, with potential savings of £8bn / year to consumers by 2035
- Journeys by public transport, walking and cycling will need to increase.
- Growth in air travel and related infrastructure is curbed by 6%, but could increase again as low-carbon planes become viable
- Emissions from flights will be offset by tree-planting – funded by airlines, making flights more expensive
- Energy will be renewable, with a significant amount from offshore wind. Hydrogen and nuclear will also be part of the mix nationally.
- Electricity use will increase as transport and heat are electrified, and grid infrastructure will be updated to enable decentralised and smart energy generation and storage technologies
- Homes will be more energy efficient, costs being offset by energy savings. Gas boilers will be phased out and new homes will be required to have low-carbon heating such as heat pumps
- Low carbon industries, such as those building renewable energy installation or retrofitting homes with new technology, will create thousands of jobs throughout the UK
- Supply chains will help to decrease the carbon produced directly and indirectly by what we buy and consume
- Research and innovation will focus on developing clean solutions to shipping and aviation, and carbon capture, usage and storage technology
- Consumption of meat and dairy will need to decrease by about 20% by 2030 rather than a complete move to meatless diets, as long as reduction in emissions in other areas is achieved
- The UK will have a 40% increase in woodland areas. Some will be accessible, some will be commercial forest, some will be protected for nature
- Food production will need to be increased and more efficient, while farms will be supported to help fight climate change and increase biodiversity
- Nature recovery initiatives and the Environmental Land Management scheme help to sequester carbon, reduce flood risk and provide green places for people and wildlife

Climate Strategy - Our approach

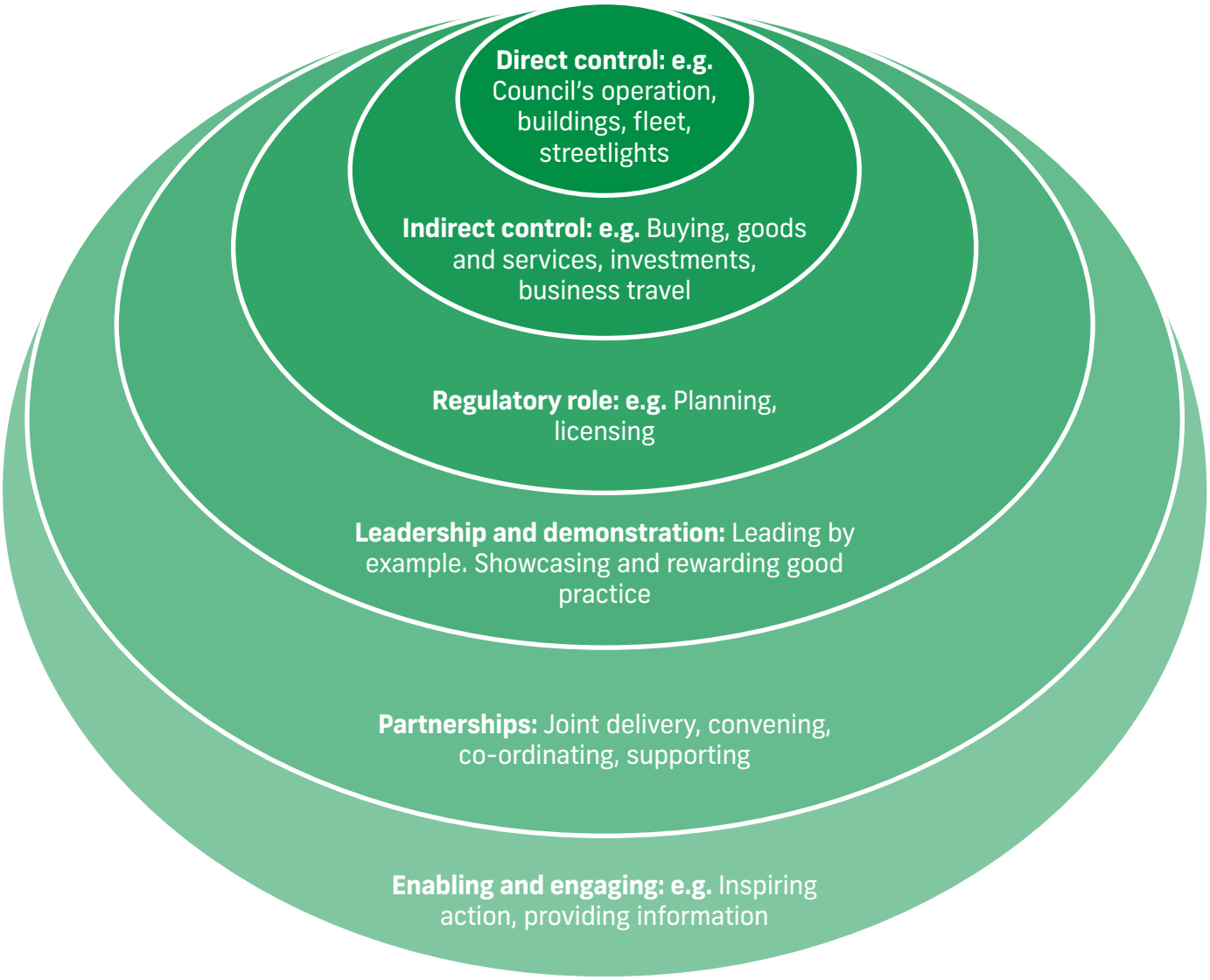
Our new strategy will be a basis for county-wide efforts towards achieving carbon neutrality. It will not be a delivery plan but will inform further detailed plans and projects.

While preparing the strategy, Wiltshire Council will also be working to reduce its emissions as an organisation. In addition, we will be seizing opportunities to implement wider initiatives in areas that we already know will be significant for our pathway towards carbon neutral.

Information on what the council is already doing to combat carbon emissions and become resilient to climate change can be found in our twice-yearly updates to Wiltshire Council's Cabinet and Full Council.

The council will reduce emissions within its direct control and will also use a range of tools to maximise its influence. This will include regulatory powers and partnership working - as the figure below shows.

Wiltshire Council - Levers of Influence

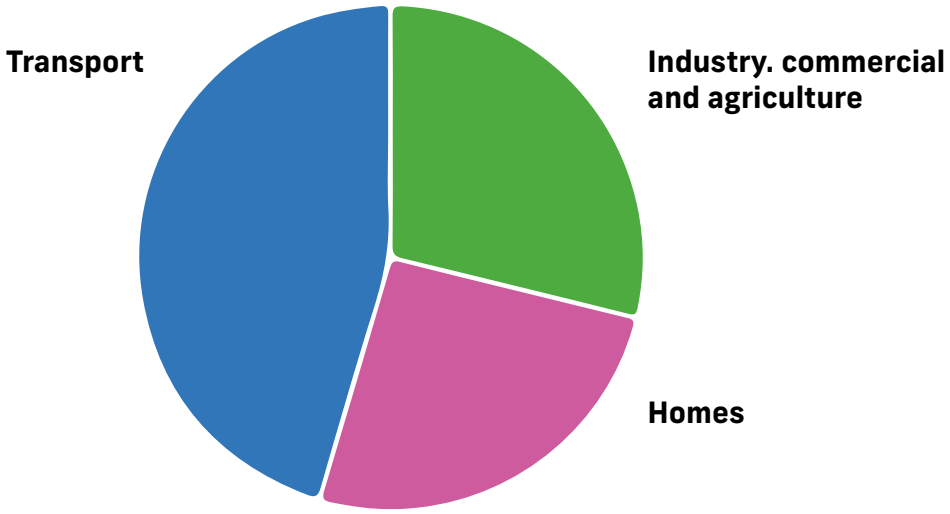


Understanding Wiltshire's emissions

Where we are now

This diagram provides an overview of the main sources of emissions, with transport taking up the largest share at 45%. Industry and homes make up the remainder. Wiltshire's total carbon emissions in 2018 amounted to 2,694 ktCO2. Wiltshire Council's emissions in 2019 amounted to 13 ktCO2 – equivalent to approximately 0.5% of the county's 2018 emissions.

Carbon emissions in Wiltshire, 2018*

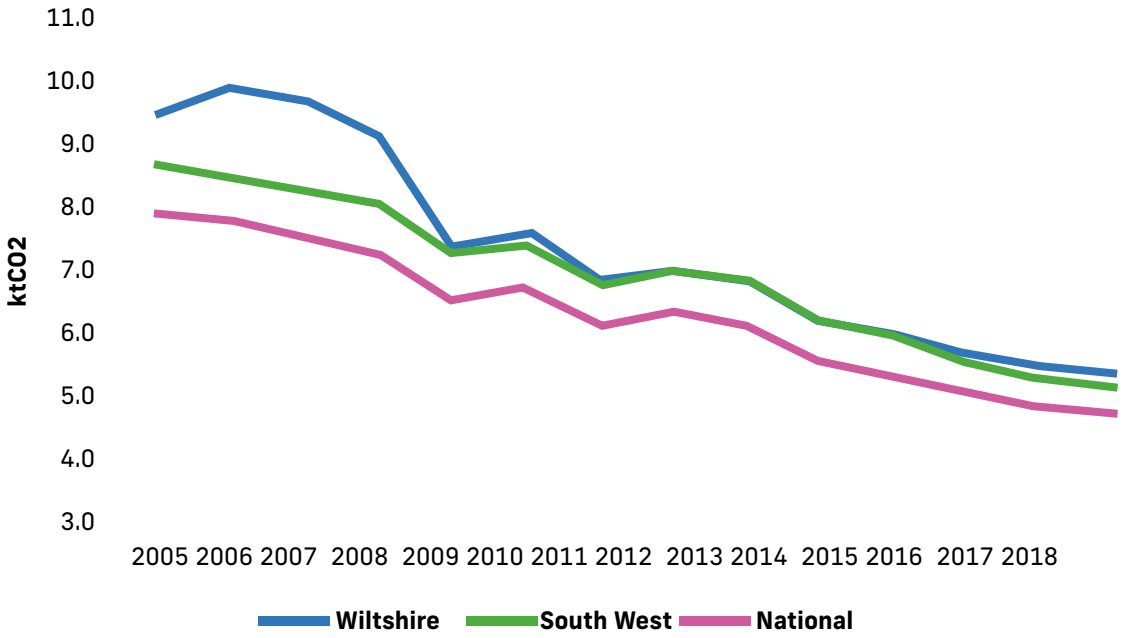


*From Government department for Business, Energy and Industrial Strategy data

Our baseline, carbon budget and trajectory

Wiltshire's emissions will be measured against a 2005 baseline, as this was the first reporting year by the Government's Department for Business, Energy and Industrial Strategy (BEIS). Significant reductions have been achieved since 2005, in line with the national trend. Key factors driving these reductions have been improvements in energy efficiency and steady decarbonisation of the electricity grid, as renewables account for an ever-increasing proportion of all generation.

Change in per capita carbon



Delivery themes

1. Transport and travel
2. Built Environment
3. Energy generation, storage and distribution
4. Green and circular economy
5. Natural environment, land use and farming
6. Carbon neutral council

Transport and Travel

Where we are now

According to the government's Department for Transport (DfT), in 2016 transport became the largest emitting sector of greenhouse gases in the UK. This also applies to Wiltshire where 45% of greenhouse gas emissions are transport related.

DfT's analysis shows that road traffic is the biggest source of emissions within domestic UK transport, providing 91% of the total transport emissions. Wiltshire is a rural county, so car use is even more prevalent for most residents. The county has over one third of a million vehicles (290,000 cars and 50,000 vans) for a population of half a million (DfT data 2020). However, balanced against this the 2011 Census evidenced that 15% of Wiltshire households did not have access to a car or van.

Cars today have lower emissions, with the average car in 2018 emitting just over 20% less CO_2 for the same mileage than the average car in 1990. However, average CO_2 emissions per mile for new cars have risen since 2016. This is mainly due to the increasing weight of vehicles.

Government recently brought forward the deadline for ending the sale of new petrol and diesel cars/vans to 2030. The current age of cars at scrappage in the UK is 14.5 years, and vans 12 years. Based on these figures the Wiltshire car and van fleet would not be entirely zero emission until 2045.

Built Environment

Where we are now - existing buildings

Energy Performance Certificates (EPC) show how energy efficient a domestic property is, and almost all of Wiltshire's 201,991 dwellings have ratings B-F. Energy inefficient housing can lead to fuel poverty (where households are unable to keep their homes warm for a reasonable cost).

More than two thirds of domestic emissions come from the burning of fossil fuels in the form of gas, heating oil and other fuels, and the retrofit of properties will be essential for a net zero-carbon future. The scale of this is a significant challenge but could also offer opportunities such as in green jobs and supply chains.

Within the footprint for non-domestic buildings, in particular for industry, there will be significant emissions from processes, product use and machinery rather than solely from the buildings.

Where we are now - new buildings

New dwellings and buildings are being built to higher standards due to more stringent requirements within building regulations, but currently new buildings within Wiltshire are not required to be zero carbon or to include renewable energy generation or storage technologies.

Housing forecasts undertaken for the emerging Local Plan predict Wiltshire will need between 40,840 and 45,630 additional dwellings over the period of 2016 to 2036. Even when taking the higher figure, 60% of this number have already been granted permission or allocated in the existing local plan and as such offer limited opportunity for zero carbon standards and future retrofitting will be required. New allocations in the emerging Local Plan, will offer the greatest opportunity to implement higher standards.

Energy generation, storage and distribution

Where we are now

Electricity is largely provided through a central grid with the majority of participants as passive users. Grid electricity has been significantly decarbonised with almost half of electricity nationally coming from renewable sources and further measures are ongoing.

Wiltshire currently generates only a small proportion of its total energy use from renewable sources (6%) and additional renewable generation may be impacted by grid capacity which has existing constraints. Technology is beginning to change, for example planning applications within Wiltshire show battery storage starting to come forward at scale and nationally there is a focus on a smarter grid.

Green and circular economy

Where we are now

Our economy in Wiltshire is noted for its innovation and entrepreneurialism and its good quality of life is a draw to businesses and employees. Wiltshire's rich historic environment and landscapes mean that tourism will be an ongoing part of the economy. The farming industry in Wiltshire is a significant contributor to food production in the South West and nationally.

In 2020 there were 22,200 Wiltshire businesses, of which 90% were micro businesses (with 9 employees or fewer) and only 75 were large (250+ employees). In 2019 Wiltshire had a total of 207,000 jobs. 1800 jobs in Wiltshire could be classified as green jobs (2018). Estimates by the Local Government Association show Wiltshire's potential for jobs in the low-carbon and renewable energy sectors: 6,856 green jobs will be required by 2030, and 13,040 (6% of the current total) by 2050.

As well as increasing jobs in the 'green' sectors we need to find ways to ensure our circular economy is resource efficient, avoids unnecessary consumption and waste, and is resilient and fair. Wiltshire Council has recently invested in new kerbside recycling services for its residents making it easier for householders to recycle the waste they generate. In 2019/20, 96% of the waste collected for recycling and composting was managed within the UK.

Natural environment, land use and farming

Where we are now? Natural environment and resilience

In nature, the carbon cycle emits and absorbs carbon dioxide all the time. Trees and vegetation are natural stores of carbon and tree planting can play a role in offsetting our carbon emissions. UK average woodland coverage in the early 1900s was only 5%. 100 years later we have now increased to 13% nationally. The national target is to increase tree cover to 19% by 2055. In this context, our current tree cover in Wiltshire is 9% and we will need to define an appropriate target that takes into account our landscape and archaeology, as well as competing land uses.

The health of the soil and associated habitats are also vital in terms of resilience to climate change effects such as biodiversity loss and flood risk. Wiltshire's network of green and blue corridors and spaces will need to be strengthened so that it can support biodiversity, enable adaptation and resilience to climate change, and contribute to the health and wellbeing of our communities. A Green and Blue infrastructure Strategy is in preparation, based on these goals, and will complement the Climate Strategy by focusing on the natural environment. The document 'Towards a Green and Blue Infrastructure Strategy for Wiltshire - an overview of the emerging strategy' has been published, which can be reviewed here.

Where are we now - food and farming

The South West region is home to nearly a quarter of the nation's agricultural holdings, contributing twice as much to the economy and generating twice as many jobs as the average English region. Within the South West, Wiltshire is the most farmed county, with more than three quarters of its land being farmed commercially (273,555 ha of Wiltshire's total 348,500 ha).

GHG emissions from agriculture, forestry and other land uses ('AFOLU') come from

- Methane from livestock
- fertiliser production and application
- soil disturbance and compaction
- use of energy in farm buildings, machinery and waste

In addition to emissions generated within Wiltshire through food production, our food also has an environmental (and social) impact elsewhere, both in its production and its transportation.

Consumers are already becoming aware of the benefits of buying local, however there is currently a lot of confusion around the pros and cons of choices, for example in relation to eating less meat, or choosing organic.

Carbon neutral council

Where we are now?

Analysis of Wiltshire Council's emissions shows corporate estate and leisure centres together accounting for 64% of emissions in 2019/20, streetlights 30% and council fleet 6%. There is currently a £12m programme to convert streetlights across Wiltshire to LEDs. The 42,000 new units are projected to reduce energy consumption by 67% by 2022/23 compared with the 2013/14 baseline.

More than half of the council's energy consumption in 2019/20 was for electricity use in buildings and streetlights. These emissions will be recorded as zero from 2020/21 as the electricity is now purchased through a green tariff and comes from 100% renewable sources.

We also need to look at accounting for energy savings, alongside emissions reductions and cost savings. This would reflect the carbon hierarchy and ensure that we are 'eliminating' and 'reducing' emissions before 'substituting' (with renewables).

The baseline for measuring progress will be the first year Wiltshire Council was created, i.e. financial year 2009/10. However, consistent and comparable data is currently available from 2014/15 which was the point when schools were no longer included in the council's carbon footprint.

Significant progress has been made towards becoming carbon neutral by 2030:

- In the financial year 2019/20, Wiltshire Council's carbon footprint was 11,641 tCO_2, which is half the emissions of 2014/15.
- Projected emissions for 2020/21 are approx. 4,800 tCO2e;
- This means that since Wiltshire Council declared a climate emergency, emissions will have reduced from 14,864 t in 2018/19 to 4,800t in 2020/21 – a 68% decrease (a 79% decrease since 2014/15).

This is due to a range of measures, such as the green tariff which counts as zero carbon electricity for corporate estate and streetlights, and on-going investment in energy efficiency. Our £5.2m corporate carbon reduction programme will focus on a range of measures, including decarbonising heat in buildings, installing PV and heat pumps. As well as reducing emissions from our own buildings and operations, we will need to understand the emissions from our outsourced services and products we buy and work with our suppliers and contractors to reduce them.

Final steps

Thank you for taking the time to review our discussion document and we very much look forward to receiving your feedback at Climate@Wiltshire.gov.uk. A full version of the Discussion Document is available here.

Towards a Climate Strategy for Wiltshire. Summary Discussion Document