

Somerset Climate Emergency Framework

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1: Introduction

This framework document has been produced by the five Somerset Local Authorities (Mendip District Council, Sedgemoor District Council, Somerset County Council, Somerset West and Taunton District Council, and South Somerset District Council). It aims to summarise and outline the work currently co-ordinated by the Local Authorities to meet our targets for carbon neutrality. A brief account of the current situation in Somerset and issues associated with climate change is provided, highlighting why we are undertaking this work.

This framework is intended to spark a conversation with our communities, interest groups, businesses and other relevant stakeholders in order to generate true community engagement and strategy co-development, ensuring that everyone in Somerset feels a sense of ownership of the full Climate Emergency Strategy and the actions that arise from it. This initial document will provide some high-level detail explaining the expected directions of travel required to address the various issues that have been identified. However, it is essential that the detailed Climate Emergency Strategy and Action Plans derived from it are informed by listening to the communities that will be affected by any changes, whilst we learn from initiatives, projects and actions already planned and implemented within our communities. The final Climate Emergency Strategy produced by this work will not simply be a Council document; it will be recognised and owned by everyone in Somerset and be held as a collective response to the Climate Emergency.

The Climate Emergency Strategy will contain more detailed analysis of the changes required for Somerset to become carbon neutral and increase resilience to the risks posed by climate change locally. The Strategy will aim to detail programmes and projects to address these issues, with estimated costs, required carbon emissions reductions and cost-benefit analysis included. Actions will be split over short-, medium- and long-term timescales to enable prioritisation and effective planning.

Individual Local Authorities will produce Action Plans supplementing the Climate Emergency Strategy. These Action Plans will specifically identify how the overall Strategy is relevant to each district, how projects will be delivered and funded, and detail the response to area-specific issues. To maximise the effectiveness and efficiency of the mitigation and adaptation responses implemented by the Local Authorities, these Action Plans will be dynamic and flexible in nature, continuously adapting to the most up to date evidence, methodologies, funding sources and ideas. Engaging with communities throughout the life-cycle of these Action Plans will be essential as the Plans evolve to meet new challenges or opportunities.

2: The Declarations

In 2019, the five Somerset Local Authorities passed resolutions to declare or recognise 'Climate Emergencies' and have since agreed to collaborate to produce and deliver an ambitious, joint Climate Emergency Strategy encompassing the county of Somerset.

Each declaration is slightly different, but all aspire to achieving carbon neutrality and ensuring that we are adapted to the effects of climate change within each administrative area. The appendix contains the individual motions of each Council in full.

3: Contextualising Climate Change

3.1: Global

A recent Intergovernmental Panel on Climate Change (IPCC) report highlights the importance of taking immediate action to limit global warming to a 1.5°C threshold, compared to temperatures from the pre-industrial period¹. Whilst achieving this limit is a challenge, requiring 'rapid and far-reaching transitions in land, energy, industry, buildings, transport and cities' to meet the required net-zero carbon emissions targets, it is certainly possible and requires action to meet these targets immediately¹.

The risks associated with missing this 1.5°C threshold are significant: global warming reaching 2°C has considerable implications for sea level rise, Arctic Ocean sea ice coverage, and prevalence of extreme weather. The impact of a 2°C rise in global mean temperatures on animal and plant species would be catastrophic; at 2°C warming, 18% of insects globally, 16% of plants and 8% of vertebrates are projected to lose more than half of their ranges, whilst 99% of all coral reefs would be lost. With 1.5°C of warming, this impact is reduced by two thirds for insects and by half for plants and vertebrates¹.

3.2: United Kingdom

In response to the IPCC report, the Committee on Climate Change (the UK Government's independent advisor on Climate Change) published *Net Zero – The UK's contribution to stopping global warming*², which suggested that the UK should set a national target for carbon neutrality by 2050, and recommended numerous 'core', 'further ambition' and 'speculative' options, policy changes and projects for the UK to pursue. Since then, the UK Parliament has declared a climate emergency and set a legally binding target for carbon neutrality in 2050 through amendments to the Climate Change Act³. However, Government policy continues to lag behind this target and the recommendations of the CCC.

Nationally, the UK has reportedly made significant progress, reducing emissions by approximately 40% since 1990. However, the majority of progress derives from changes made in the power, waste and industry sectors. Key sectors, such as the built environment and transport, have made little progress – transport emissions have remained steady with little reduction since 1990. The importance of achieving net-zero carbon emissions is highlighted within legislation; the UK's 2050 net zero target is legally binding³ and offers an opportunity for the UK to be an exemplar case study in inspiring other countries to legislate for and meet ambitious carbon neutrality targets.

3.3: Somerset

The tangible impacts of climate change will be particularly visible in Somerset. Due to the topography of the region, rising sea levels will significantly impact coastal flooding in low-lying regions such as the Somerset Levels and Moors, whilst increases in extreme weather events will increase river and surface water flood risk. Coastal communities are likely to become more vulnerable to coastal erosion and shoreline retreat.

Additionally, temperatures are likely to increase in excess of the global average. Even if the global temperature increase is limited to 2°C, Somerset is likely to experience temperature change higher than this⁴. The latest projections (UK Climate Projections 18, produced by the Met Office) indicate that summers will be hotter, with increases by 3.7°C to 6.8°C, depending

on how carbon emissions are managed, by 2070⁵. Hot spells, defined as consecutive days reaching temperatures in excess of 30°C, will increase in likelihood by almost 20 times⁵. This increases risk to drought, heat-waves, water stress and pressures to existing water infrastructure, which can become major issues disproportionately impacting those most vulnerable in society. Current rates of heat-related mortality reach around 2,000 premature deaths per year; by 2020 this figure could increase to 3,400 and approach 11,000 in 2080⁶.

Ensuring local businesses are prepared for these projected climatic changes is important to consider for Somerset, due to the prevalence of small-medium sized enterprises in the region. If implemented incorrectly, a transition to a greener economy more resilient to the impacts of climate change could harm the most vulnerable in society. In order to avoid this, bottom-up engagement and co-development is essential to ensure a fair transition and provide adequate support, up-skilling and re-training for the necessary workforces at risk where industry is required to adjust to meet emissions reductions targets.

Changes to the natural environment, driven by increases to temperature and precipitation profiles, can mean existing ecosystems are vulnerable to die-back or different pest species; ensuring that the rich biodiversity found in our landscapes is preserved is of considerable importance. These changes will impact farming and agriculture, and so developing detailed and evidence-based strategies to mitigate these impacts and provide support to farmers within the industry is important.

3.4: Net Emissions in Somerset

Work has been undertaken to baseline the current net carbon emissions picture within Somerset. Quantifying both emissions and sequestration in the present-day is fundamental to evidence-based strategy development. Understanding sources of emissions in each district is important due to both the geographical and demographical variation within Somerset and a singular action plan is unlikely to be successful. Highlighting key areas of focus to identify maximum benefits and prioritisation of areas for concentration will increase the success of the Strategy and relies upon accurate baselining and monitoring of changes implemented.

3.4a: Emissions

In 2017, a total of 3,285 kt (kilotons) of CO₂ were emitted in Somerset⁷ from industrial, domestic and transport-related sources. A further 9.5 ktCO₂ is emitted from Land Use, Land Use Change and Forestry (LULUCF) sources across the county as a whole. For context, a kiloton of CO₂ is emitted by 1,736 average newly registered cars in 1 year⁸. In fact, the majority of emissions in Somerset derive from the transport sector - 46.5%, compared to 29.4% from industry, 23.8% from the domestic sector and 0.3% from the LULUCF sector.

The relative contributions of each sector vary by Local Authority: in Sedgemoor, 52.2% of emissions derive from transport (with the majority of these sourced from the M5 motorway), compared to only 36.8% of emissions in Mendip. In Somerset West and Taunton LULUCF accounts for -48.8 ktCO₂ per annum (a net sequester), whilst in Mendip LULUCF accounts for 32.9 ktCO₂ per annum (a net emission). For this reason, specific analysis of emissions sources within each overall sector is required.

Whilst the dataset used to calculate emissions at a high-level separates data at an overall District level, utilising other sources can provide a more detailed picture of emissions sources

in Somerset. For example, using the Energy Performance of Buildings database⁹, emissions produced by individual houses can be analysed. Work going into further detail will be carried out by the Energy and Built Environment workstreams.

In addition to emissions produced in Somerset, to which the above statistics are relevant, the people, businesses and activities which are ongoing within Somerset have emissions associated with things they consume. This is because not all of the products that we consume in Somerset were produced in Somerset. It is important to not just focus on the emissions produced in Somerset, as otherwise we could end up simply stopping producing the emissions here and export them to somewhere else which would achieve nothing on the global issue of stopping climate change. However, measuring consumption emissions is difficult, with national statistics similar to the above not existing. Calculating emissions produced by industries and businesses in particular is more difficult, primarily due to emissions from their supply chains. Not all emissions have to be disclosed by businesses to the public, so there is a lack of data available online to assess the emissions of individual organisations. The Industry, Business and Supply Chain workstream will work to assess these emissions.

Beyond carbon dioxide emissions, it is important to recognise the need to reduce all greenhouse gas emissions including those from methane, nitrous oxide and f-gases. These other greenhouse gases exist in smaller volumes and have shorter lifespans, but are many times more potent than carbon dioxide. The principal focus of the strategy will be on achieving carbon neutrality, but it is essential that we explore ways to reduce these other greenhouse gases too. However, BEIS Local Authority emissions statistics do not currently cover non-CO₂ emissions, so we will need to identify alternative ways of monitoring progress on these.

3.4b: Sequestration

Carbon sequestration is the natural process of capturing and storing atmospheric CO₂. Long term storage of CO₂ through plants, soils and geological formations can mitigate the effects of climate change by offsetting carbon emissions produced by human activity.

Using data from the National Forest Inventory (NFI) it was calculated that approximately 66.1 kt of CO₂ is removed from the atmosphere each year by trees in Somerset¹⁰. This is equivalent to the domestic emissions of Sedgemoor alone – the lowest contributor to domestic emissions in Somerset – or 2.0% of the total emissions produced directly within Somerset in 2017⁷.

Data from the NFI is updated annually, meaning any changes to tree cover can be tracked and monitored. It is important to note that sequestration rates vary between different tree species and age of trees – the figure provided is an estimate but gives a simple foundation for tracking the progress of Somerset to carbon neutrality. In comparison to the emissions produced in Somerset, the total volume of CO₂ removed is relatively low; this highlights the importance of emissions reduction at the source, rather than prioritising offsetting, which supports the foundational concept of the Strategy to take direct action to reduce total emissions and in situations where this is not possible, offset emissions.

Additional work will be undertaken by relevant workstreams to quantify the net sequestration rates of crops, hedgerows and soils (such as peatlands). Specific research is required due to

the variation in management practices used by farms contributing to different net emissions totals.

4: The Climate Emergency Strategy Scope

The Climate Emergency Strategy, co-ordinated by the Somerset County and District Councils in conjunction with relevant partners, will identify ways in which Somerset could become carbon neutral by 2030. This will undoubtedly include overcoming a number of issues that will require legislative change and we will actively lobby for the necessary amendments to legislation to be implemented. For the purposes of this Strategy, carbon neutrality is defined as:

'Carbon neutrality, or having a net zero carbon footprint, refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset'¹¹

The primary objective for the Strategy will be to identify ways that carbon emissions can be directly reduced or avoided. Offsetting and sequestration of emissions will be supplementary actions for situations where direct reduction is not possible, reasonable or cost-effective. It is important to note the distinction between *carbon neutrality* (the aim of the Strategy) and *zero carbon*; emissions will be reduced as much as feasibly possible, but any remaining emissions will be offset to the same quantum.

In this regard, the Strategy will uphold 'responsible research and innovation principles'¹²; offsetting of emissions will be implemented as close to the emissions source as possible. This will increase the local relevance of the projects undertaken, whilst increasing the likelihood of adequately managing the primary and secondary impacts and effects of delivery.

Although more difficult to quantifiably measure, the Strategy will also look to monitor and reduce the emissions generated outside of the county for goods and services that are consumed within Somerset.

As well as working to reduce emissions, the Strategy will identify the adaptations required to ensure Somerset is resilient to predicted environmental changes induced by climate change, such as increased temperatures, more varied precipitation profiles, extreme weather events and sea level rise. Secondary impacts associated with these changes, such as increased pest prevalence impacting the natural environment, will be also be identified, evaluated and mitigated within the Strategy.

5: Opportunities

Immediately taking proactive steps to mitigate and adapt to these inevitable changes can offer numerous opportunities to improve the local communities we live in and living standards for all in Somerset. Projects and proposals can provide significant socio-economic, non-environmental 'co-benefits' and reduce costs to society in other places whilst contributing to increased standards of living of all residents of Somerset.

For example, changes implemented to reduce emissions from transport contribute to many health co-benefits, which can reduce healthcare costs and improve the quality of life for many – increasing rates of cycling or walking can contribute to reductions in heart disease rates or

obesity-related risks and lower rates of urban and noise pollution¹³; whilst transport systems prioritising rapid transit can improve access for vulnerable groups improving equality and access to healthcare¹³.

Similarly, whilst tree-planting schemes are intended to increase the rate and volume of CO₂ removed from the atmosphere via natural sequestration, increasing tree coverage in urban areas can deliver public and mental health benefits for residents in the communities as well as serving to improve biodiversity in urban or natural regions.

Within the energy sector, actions intended to reduce reliance on fossil fuels or decrease energy consumption have numerous associated co-benefits. Construction of community renewable energy generation and storage projects can provide greater energy security, lower energy bills, revenue opportunities as well as jobs for both local communities and the wider region. Delivery of retrofit schemes, intended to reduce energy consumption and increase energy efficiency within domestic or other buildings, can contribute to reductions to energy bills and fuel poverty rates whilst decreasing health concerns associated with cold and damp homes for those in vulnerable communities.

Whilst the Climate Emergency Strategy will primarily focus on climate change and its associated impacts, delivery of projects intended to reduce carbon emissions or adapt to predicted changes are likely to have co-benefits relevant to other environmental issues. Issues relating to single-use plastic consumption, biodiversity and health and well-being of local communities are not the primary focus of the Strategy. However, in some situations individual workstreams may develop responses, action plans and projects relevant to these areas where there is a significant overlap with climate change and clear opportunities to meet the primary objectives of carbon neutrality and adaptation are present.

Although initial costs of project implementation may be high, it is undoubtable that these costs are minimal compared to those that will be incurred if a 'business as usual' approach is continued. For example, the 2013-2014 winter floods cost Somerset up to £147.5 million with £20 million to residential property alone¹⁴ – climate change will increase both the frequency and severity of flooding, making similar events more likely in the region. Taking proactive steps to adapt to the impacts of climate change can considerably reduce these costs derived from flooding alone; long-term impacts to the economy associated with other changes, such as drought or reductions to water quality, can also be avoided.

6: Challenges to Delivery

Whilst the direct contribution of the five Local Authorities to Somerset's total emissions has not yet been calculated it is likely to be a small proportion overall. Work commissioned by Manchester City Council indicated that they only produce 3% of the total emissions within their administrative area¹⁵. The immediate influence that we have in reducing the net emissions of Somerset is limited to internal infrastructure or contracts, such as making changes to the estates owned by the Authorities or to services delivered, supplied and procured.

However, the policies, strategies and other regulatory powers of the Authorities can make significant contributions to reductions to net emissions externally across Somerset. For example, planning policies setting carbon reduction targets for new developments can

influence the emissions picture county-wide as opposed to continuing a business as usual approach. In addition, the role that the Local Authorities play in encouraging action by stakeholders, businesses, partners or communities that can directly reduce emissions themselves is essential. By working with an array of groups, the Local Authorities can empower, encourage and support the strategic actions required by these parties to achieve carbon neutrality and act as a catalyst towards a carbon neutral Somerset. This underlines why it is essential to build consensus and ensure everyone in Somerset feels a sense of ownership of the Strategy and in delivery of its actions.

Other challenges associated with delivery are less simple to overcome. The composition of Somerset, in both environment and demographics, can add to difficulties associated with delivery. For example, whilst the beauty of the natural environment and rurality of the region makes Somerset a special place to live, reducing emissions from the transport sector is less simple than in an urbanised city region with a more concentrated, less dispersed population. In total, there are 6,604km (4,104 miles) of roads in the county with a total of 4.31 billion miles travelled in 2018¹⁶; whilst urban centres like Taunton, Yeovil and Bridgwater are well connected, accessibility is an issue in rural areas due to the limited local road network located in regions like the Mendip Hills or Exmoor. Additionally, the presence of the arterial roads spanning Somerset (M5 and A303) contributes to a large proportion of transport emissions with journeys not necessarily originating or terminating within the county – 26% of Somerset’s total transport emissions derive from the M5 alone¹⁶. Reductions in emissions generated from these transient journeys will need to be addressed by changes in national policy as they fall largely outside of the ambit of the Somerset local authorities.

Furthermore, the abundance of protected landscapes, such as Exmoor National Park and the four Areas of Outstanding Natural Beauty (AONBs), add to the natural capital within Somerset, yet may prove problematic when identifying areas suitable for renewable energy generation and storage or climate change adaptation projects.

Initial scoping work has highlighted the need for retrofit or replacement of a large proportion of existing domestic and commercial buildings in Somerset to improve energy efficiency, decarbonise heat and power, and ensure buildings are resilient to the impacts of climate change. To meet the national net-zero target it is estimated that 27 million properties across the UK will require deep retrofit by 2050; this equates to 20,000 properties per week, yet currently only 20,000 per year are in receipt of energy efficiency measures¹⁷. The lack of disposable income and prevalence of fuel poverty in some of our communities, as well as the limited opportunities for Local Authorities to influence existing properties, presents more barriers to project implementation.

With the current economic climate and lack of resources available for Local Authorities to deliver projects or infrastructure change, prioritising resource allocation is essential. We have finite and limited funds and we have calls on that money already. We need to ensure that we are gaining optimal benefits and emissions reductions from our investments. Whilst there is a role for in-depth analysis and longer-term planning, it should not prevent us from taking immediate action in areas that already has a strong evidence base. The Committee on Climate

Change's Net Zero report¹⁸ gives a good steer as to the least regret options and interventions that will be necessary in order to deliver on a carbon neutrality target.

This issue is made worse by the national policy gap - to reach net-zero emissions for the UK as a whole, further legislation and strategy needs to be delivered to prioritise investment and provide funding to enable delivery of the extensive projects required to achieve this target. In these circumstances, it will be most appropriate for the combined Local Authorities to lobby Central Government for increased national policy and action, funding, local regulatory powers, or all of the above. Identifying situations in which we will require further support – from stakeholders, Central Government, or other relevant parties – forms a crucial aspect of this work.

Managing these risks and overcoming these barriers will be important for the success of the Climate Emergency Strategy. In this regard, the risks to delivery must be treated as opportunities to take positive action and affect positive change to the status quo in legislation, current activities and to engender lasting behavioural change.

7: Strategy Development

It is important that an overarching Strategy is developed to co-ordinate Somerset's response to the climate emergency and ensure actions are taken to achieve carbon neutrality. Without an aligned strategy, ad-hoc or piecemeal action is likely to result in higher costs, incompatible projects running in parallel, and potentially undesirable and/or unintended outcomes and consequences. Whilst strategic planning is vital, this is not to preclude us from developing pilot and trial schemes from which lessons can be learned, benefits calculated and future projects formulated.

To produce the Strategy, we will collaborate with sector and industry experts to develop joint approaches in tackling climate change whilst sharing resources to maximise the benefits of projects implemented. Additionally, we will identify ways for the Local Authorities to assist businesses, industry, communities and individuals in making the necessary changes required for Somerset to achieve carbon neutrality, whilst ensuring that the most vulnerable within society are not disproportionately affected by these changes.

Traditionally, 'co-developed' projects are more successful: we will be engaging with individuals, young people, the elderly, communities, interest groups, businesses and industry, educational institutions, wards, town and parish councils, and other relevant sectors. All sections of society will have the opportunity to help us develop the strategic responses, action plans and projects produced from this work. We will work with these groups to identify projects and proposals, and then provide support in assessing the wider benefits or unintended consequences of each action and assist in the delivery of projects.

Whilst the Somerset Climate Emergency Strategy will include higher level actions and projects that are relevant across Somerset, all individual Authorities will supplement the Strategy with their own Action Plan. These will outline the necessary policies, projects and actions required to meet the strategic targets and identify resources required to enable the delivery of the

Strategy. These will be dynamic and evolve as our evidence-base grows, ensuring that the most up-to-date projects are prioritised and funding opportunities identified.

8: The Workstreams

8.1: Workstream Function

Climate change will impact every aspect of society. To make the task more manageable, work will be separated into nine workstreams:

- Communications and Engagement
- Built Environment
- Energy
- Farming and Food
- Industry, Business and Supply Chain
- Natural Environment
- Transport
- Waste and Resource Management
- Water

Due to the co-benefits associated with project delivery, public health will be important for consideration by all workstreams and will be a priority focus for all workstreams, with health experts contributing to project research, development and implementation for all workstreams.

Each workstream will contain sector and subject-matter experts. They will:

- Research and prioritise key issues
- Develop mitigation and adaptation strategies
- Evaluate costs, benefits and unintended secondary consequences
- Work together where appropriate

Work has been undertaken to identify key areas for further research. These are presented as initial themes within this framework, but to ensure the success of the overall Climate Emergency Strategy wider stakeholder engagement and input is crucial to provide feedback and alternative ideas for consideration to the workstreams. We are keen to draw on ideas, expertise and enthusiasm from all to ensure that the actions to be delivered are appropriate and informed by a wide cross-section of the people and organisations of Somerset.

This research has highlighted some potential projects for delivery over short-, medium-, and long-term timescales. These, and other ideas emerging from engagement and consultation events, will be explored and evaluated in further depth to ensure that the Strategy and Action Plans are evidence-based.

Actions taken intended to mitigate or adapt to climate change often come with co-benefits, defined as 'the positive effects that a policy or measure aimed at one objective might have on other objectives'¹⁸. In many cases, these can help to meet the statutory duties of Local Authorities and other public-sector bodies. Evaluating these co-benefits will support business cases and enable us to access increased funding. Also, it is true that climate change may not

be a priority for everyone in Somerset – by identifying the co-benefits, we can clarify how action taken to address the climate emergency can improve other aspects of life in Somerset¹⁹.

The broad range of stakeholders identified for engagement, as well as experts included within each workstream, will ensure that the views, ideas and concerns of relevant parties are considered and accounted for within the Strategy.

8.2: Communications and Engagement

Substantial levels of communication and engagement will be crucial to the success of all the workstreams and delivery of the overall Climate Emergency Strategy. As well as facilitating changes within the areas under the direct control of the five Local Authorities, the success of the Strategy will be underpinned by encouraging action to be taken by the many individuals, communities and other stakeholders.

Whilst many groups and communities are actively engaged with the climate change agenda currently experiencing considerable coverage within the media, some groups prioritise the issue to less of an extent. Receiving feedback from these groups and individuals and encouraging them to engage with the development of the Strategy is a vital action for this workstream.

Theme 1: Engagement and Consultation

Ensuring that everyone in Somerset feels a sense of ownership of the Strategy is fundamental to its success; therefore, ensuring as many people as possible from a cross section of society have an opportunity to contribute to the development of the Strategy is essential.

To achieve this, the workstream will:

- Develop Climate Summits in each district in conjunction with Somerset Climate Action Network (SCAN).
- Produce an online forum for on-demand engagement with the Strategy development.
- Organise specific engagement with young people through school and college events.
- Explore further opportunities for ongoing feedback and suggestions for the Strategy and subsequent Action Plan development.
- Work with local communities, towns, wards and parish councils to ensure local interest and community buy-in with the Strategy and associated Action Plan development.
- Ensure the engagement of Young People within the Consultation by the development of a young-person specific communications strategy and Consultation plan

Theme 2: Internal Communications

The five Local Authorities and partners have well-established internal communications channels. These can all be immediately used to engage and inform a significant workforce and seek to develop a significant body of ambassadors for the strategy and source of good practice case studies.

This workstream will:

- Highlight the importance of best practice, encompassing suggestions from all workstreams, within internal communication channels such as employee email and online newsletters.
- Explore opportunities to incentivise partner employee best practice and behaviour change.

Theme 3: External Communications

An appealing online presence will be a major component of the external communications and engagement strategy. Developing a central repository or hub for information, case studies, progress updates, resource packs and relevant materials will be critical in informing the wider community of the climate emergency whilst ensuring community buy-in and contribution to Strategy development. More traditional forms of media, such as press releases, news features or specific events, will supplement the external communications strategy to ensure accessibility for all.

Initial components of this work will include:

- Developing a uniform communications strategy to be implemented at all levels from all five Local Authorities.
- Utilising the Councils' established communications channels, such as traditional PR, in conjunction with the combined social media presence and reach, to maximise engagement opportunities.
- Ensure that documents and resources are available in other, accessible formats.

8.3: Built Environment

32% of the UK's emissions derive from the business and residential sectors²⁰, and 45% of energy use occurs in houses, offices, shops and public buildings²¹. In Somerset in 2017, total domestic emissions are greater than the national county average (783 kt CO₂ yr⁻¹ compared to 539 kt CO₂ yr⁻¹), although domestic emissions per capita are comparable to the national county average²².

Therefore, minimising and decarbonising energy consumption in buildings will be crucial to meeting carbon neutrality targets by 2030. Through planning, local authorities have the power to influence location and type of development, materials used in construction, carbon reduction, building design and low carbon and renewable energy generation in relation to new development. However, the majority of buildings that will be standing by 2030 and beyond to 2050 are likely to have already been built and influencing how these are retrofitted and improved is more complex.

Both new developments and existing buildings and communities will need to be resilient to projected climatic changes.

Theme 1: New Developments

The workstream will explore ways to ensure that new developments reduce carbon emissions. This can include minimising the need to travel, reducing energy consumption of homes and

businesses, facilitating low carbon and renewable energy generation, encouraging sustainable behaviours, and ensure that they are adapted to the projected future climate of Somerset.

Initial directions of travel for this workstream are to:

- Identify opportunities to ensure that all new residential and commercial developments consider sustainable travel and transport links to lessen the impact of the scheme.
- Ensure that all new developments consider projected climatic changes and encourage planners to incorporate sustainable urban drainage schemes (SuDS), urban trees, and waste management.
- Highlight building designs that reduce the carbon footprint throughout the life cycle of homes and work towards all buildings achieving zero carbon accreditation as soon as possible.
- Review the implementation of existing planning policies particularly in relation to minimum standards for new housing development and identify opportunities to improve the delivery of those existing policies.
- Work to improve minimum standards in improved and revised planning policies as Local Plans are reviewed with a view to aligning ambitious policy across the county in time. This is likely to include the requirement to lobby Central Government to improve minimum building regulation and energy performance criteria, as well as implement changes to the National Planning Policy Framework.

Theme 2: Existing Buildings and Communities

Whilst changes to planning policy improving the efficiency and resilience of buildings are essential to ensure that future developments are fit for the climate future, many improvements to the performance of existing buildings are required. Identifying priority buildings or communities, as well as projects intended to deliver improvement, is essential. Overcoming the issue of funding is likely the primary barrier to delivery of wide-scale changes across Somerset; lobbying Central Government for increased investment will be required.

This workstream will:

- Identify sources of funding, investment or subsidy for retrofit opportunities, in conjunction with the Energy workstream.
- Highlight priority buildings and communities requiring retrofit or improvements to resilience and develop high-level strategies for delivering the required changes. This will include specific focus on council-owned buildings and retained housing stock to ensure the Local Authorities set an example within Somerset, as well as identifying opportunities to incentivise and enable change in privately-owned properties.
- Explore the potential to simplify, encourage and de-risk action to deliver retrofit to existing buildings and communities via planning or other means.

8.4: Energy

Somerset has significant potential for renewable energy generation, ranking highly in both a national and European context. In 2017, Somerset possessed installed renewable energy capacity of 506MW, of which 90% was attributable to photovoltaic technology²³ – but there is still a considerable amount of untapped renewable energy source. Increasing total renewable

energy capacity and generation is crucial to meet carbon neutrality targets, yet changing the source of energy supply exerts significant pressure on the electricity grid. However, implementation of renewable energy technologies can contribute to a range of societal benefits, including: socio-economic development; increased energy access; a more secure energy supply and a reduction to negative environmental and health impacts associated with large-scale combustion of fossil fuels²⁴.

37% of UK emissions derive from heating²⁵; reducing end-user emissions totals, via retrofit and improvements to insulation, is important – yet only a start. Decarbonising heat, via innovative solutions such as high standards of insulation, appropriate electrification, decentralised heat networks or implementation of hydrogen or biogas technologies to green the gas grid, is cited as being essential to meet zero-carbon targets by 2050²⁶. Whilst potentially difficult to implement in Somerset, due to the rurality and prevalence of fuel poverty in some regions, developing projects that can overcome these barriers is crucial to meet the aspirations of carbon neutrality by 2030.

Theme 1: Reducing and Shifting Energy Demand

Working with the Built Environment workstream, opportunities will need to be identified to reduce energy consumption within buildings in Somerset. This will include delivering retrofit projects to improve the performance of existing building stock whilst working to increase minimum energy standards and requirements for planning proposals to reduce energy consumption in new developments.

Priority tasks for this workstream are to:

- Identify existing houses or communities with high energy consumption and develop strategies to overcome these issues via retrofit.
- Research and develop mapping of identify existing/ potential major heat sources or loads.
- Liaise with planning departments and developers to produce a uniform, Somerset-wide approach to working towards all new developments achieving zero carbon accreditation as soon as possible.

Theme 2: Low Carbon and Renewable Energy Generation and Storage Technologies

The workstream will develop a co-ordinated strategy to increase the prevalence of low carbon technologies and renewable energy generation and storage in Somerset. Reducing emissions derived from heating in the domestic, industrial and commercial sectors will require development of decarbonised heat infrastructure. Working with relevant stakeholders - such as the Built Environment working group, energy providers and developers - opportunities identified by this workstream are likely to positively influence public health and reduce the impacts of fuel poverty on top of reducing carbon emissions.

This will include:

- Liaising with local community groups and relevant stakeholders, including Western Power Distribution, to overcome issues relating to capital investment and grid infrastructure.

- Lobbying Central Government to enable the uptake of such technologies, like photovoltaic energy generation or electric vehicle infrastructure and to change national policy to release the potential for onshore wind.
- Identifying sites suitable for renewable energy generation and storage projects.
- Explore opportunities for low carbon technology, like electric vehicle infrastructure or projects intended to decarbonise heat production, across Somerset.

Theme 3: Own Estate and Operations

The ability to reduce internal emissions derived from estates and operations within the respective Councils is significant as direct action can be taken to increase the efficiency of internal infrastructure. The workstream will identify how to cost-effectively implement these proposals and then develop business cases ready for project implementation.

The workstream will:

- Explore utilising council owned land to generate renewable or low carbon energies to decrease reliance on fossil fuels and generate revenue for alternative climate-related projects.
- Utilise council owned land and infrastructure to enable the proliferation of EV charging points around the county
- Develop an Energy Policy and Energy Management Plan for each Local Authority to minimise energy waste, mitigate future energy price rises and ensure responsible stewardship of public money.
- Initiate internal communications campaign to encourage best practice by staff and highlight the exemplar actions taken by the Local Authorities to external businesses and organisations.
- Identify current and historic activity implemented by Local Authorities and promote upscaling of similar projects county-wide.
- When contracts allow, look to collaborative procurement strategies in purchasing energy from renewable sources.

8.5: Farming and Food

The agricultural industry will be significantly impacted by climate change. Rising temperatures, rainfall patterns and variations to atmospheric CO₂ concentrations will impact operations and productivity, as well as pest prevalence, within the UK²⁷. Impacts to global food production could influence UK markets, diets and the food industry²⁸.

With the considerable importance of agriculture to Somerset's economy and livelihood of many residents, ensuring the sector remains resilient to these predicted climatic changes will be an important aspect of the Climate Emergency Strategy.

Despite this, agriculture accounts for approximately 45.6 million tonnes CO₂e of greenhouse gas emissions, in the UK, with methane (25.7mT CO₂e), nitrous oxide (14.3mT CO₂e) and carbon dioxide (5.6mT CO₂e) emissions being the most significant of these²⁹. Working to reduce net greenhouse gas emissions from the agricultural sector will contribute to mitigating some of the impacts of climate change. The IPCC have highlighted the importance of reducing red meat and dairy consumption in particular³⁰, and encouraged a transition to the

consumption of balanced and sustainable plant-based diets. However, we recognise the importance of agriculture within Somerset and the fact that British farms are not representative of global agricultural and meat production³¹; ensuring there is a balance between responsible consumption, advocating consumer changes towards plant-based diets and prioritising locally sourced, high quality produce will be carefully considered within our Strategy.

The contribution of agriculture to the total emissions of the UK has been recognised by industry and sector experts, such as the NFU, and pathways to making the industry carbon neutral (e.g. via responsible land management practices and further reductions in emissions from livestock) by 2040 have been identified^{32, 33, 34}. The strategy will need to consider how these proposals fit with our target to achieve carbon neutrality for the area as a whole by 2030.

Theme 1: Reducing Net Emissions

Net greenhouse gas emissions can vary significantly between farms, dependent on many factors. Variations to land usage or management practices, such as quantity, timing or type of fertiliser used by arable farms or type of feedstock used for livestock on pastoral farms, can greatly influence total emissions production by a farm. Often, changes made to management practices intended to reduce the net emissions are more cost-effective than existing practices and come with associated economic benefits for farmers.

To work towards reducing the net emissions of farms in Somerset, this workstream will begin to:

- Identify and increase awareness surrounding best practice relating to emissions for both arable and pastoral farms.
- Explore opportunities to incentivise or provide subsidy to encourage best practice for both arable and pastoral farms.
- Produce a baseline for the net emissions picture of Somerset to monitor progress and identify optimal project delivery.

Theme 2: Carbon Storage

By conserving and enhancing naturally existing hedgerows, woodlands or carbon-rich soils, and improving land management practices, higher volumes of CO₂ can be removed from the atmosphere. To encourage these changes, incentivising positive practices relating to carbon storage, via ecosystem service payments or similar schemes, may be required.

This workstream will:

- Explore methods to incentivise farmers to implement positive management practices.
- Identify restoration schemes, such as peatland or wetland restoration projects, to increase carbon storage, in conjunction with the Natural Environment workstream.
- Increase awareness of more innovative land management practices, such as silvopasture, intended to increase carbon sequestration and storage rates.

Theme 3: Climate Change Adaptation

Many existing agricultural strategies, including crop selection and management, are not well adapted to predicted climatic changes, such as increased temperatures, variations to weather

patterns and increasing prevalence of extreme events like floods and droughts. Improving the resilience of existing farmland ecosystems is important to minimise impacts of climate change and provides opportunities to enhance crop productivity. Additionally, changes to the climate are predicted to increase the prevalence and biodiversity of pest species. Co-benefits associated with the delivery of projects, intended to increase preparedness for the impacts of climate change, include supporting pollinator species and biodiversity.

In order to assist farmers in adapting to these changes, this workstream will:

- Model current farmland ecosystem and specific crop responses to climatic changes and classify regions by vulnerability.
- Identify crop species and management strategies that are adapted to predicted climatic changes and suitable for implementation within Somerset.
- Develop a strategy to implement and deliver 'ecosystem resilience improvement' projects.
- Develop education strategies to highlight the economic and environmental benefits associated with transitioning to more resilient management practices.

Theme 4: Food Consumption

Reducing the demand for high-emissions livestock products has been highlighted as significantly important by both the IPCC³⁵ and CCC³⁶. Increasing awareness surrounding the issues associated with carbon intensive products, such as beef or dairy, can lead to more balanced consumption practices and reduced environmental impacts. Eating more balanced diets can contribute to positive health impacts. Encouraging consumers to select locally sourced, ethically produced products, with lower carbon footprints - as opposed to foreign meat or dairy - can decrease the carbon footprint associated with the sector with a less radical change than eliminating meat or dairy products entirely, however, a move to more plant-based diets could have more of a positive impact in reducing an individual's carbon footprint and tackling the global challenge.

Initial directions of travel for this workstream will be to:

- Produce education and engagement strategies highlighting the impacts of high-carbon food production and consumption and suggest alternative foods with lower carbon footprints.
- Identify opportunities to reduce high-carbon food consumption within the respective Local Authority workplaces and operations.
- Encourage reductions to high-carbon food consumption externally within the wider community.

8.6: Industry, Business and Supply Chain

Industry and businesses in Somerset contribute to approximately 29.5% of Somerset's emissions. Whilst many organisations have taken steps to reduce their carbon footprint, exploring strategies to reduce supply chain emissions is cited as the next step to reduce emissions further and mitigate some of the impacts of climate change³⁷. Supply chains can contain between 60-80% of greenhouse gas emissions associated with both the production and consumption of goods and services^{38,39}.

Despite the potential direct and indirect benefits for businesses associated with demonstrating best practice and minimising supply chain emissions, legislation is identified as a key driver to enable pro-environmental behaviour within organisations⁴⁰. Working to incentivise and increase awareness of the benefits associated with these changes will drive changes in industries and businesses in Somerset.

Specific engagement strategies will be required in order to appeal to these organisations and ensure engagement of SMEs and larger groups in Somerset. Highlighting the co-benefits of taking steps to reduce carbon footprints, which are often economic in nature, will comprise an important part of the work carried out by this workstream.

Theme 1: Emissions Reduction and Stakeholder Engagement

Due to the minimal influence the Local Authorities have in reducing the emissions of private sector bodies, we require specific strategies for engaging with industries and businesses to encourage net emissions reduction. These strategies will highlight the economic and financial benefits often associated with actions intended to mitigate impacts related to climate change.

To do this, the workstream will:

- Explore ways to reduce supply chain emissions for industry and businesses in Somerset whilst encouraging sustainable material manufacture, processing and usage.
- Encourage the transition by corporations, industries and businesses to renewable energy providers or generation of on-site renewable energy.
- Incentivise positive behaviour change and showcase examples of best practice within Somerset with an environmental awards scheme.
- Create a peer network for engagement and collaboration to share knowledge and best practice regarding the shift to a low carbon, clean growth economy.
- Provide support and platforms for knowledge sharing and feedback between businesses and industries in Somerset.
- Hold business-specific Climate Summits during Strategy consultation stages.

Theme 3: Data Collection and Analysis

Whilst large amounts of data are available for assessing domestic emissions at a high resolution, data quantifying emissions produced by individual businesses and industries is not available publicly. In order to track the progress of businesses in Somerset toward carbon neutrality, additional monitoring of data will be required.

To overcome this barrier, the workstream will:

- Incorporate monitoring of progress on emissions into the Somerset Local Economic Assessment (LEA).
- Present this data on the new LEA website (called Somerset Trends) in order to ensure a centralised online data resource for partners to use and evaluate their own progress to reducing emissions.
- Design a generic methodology or 'toolkit' to assist businesses and industries in quantifying, and then reducing, supply chain emissions.

Theme 4: Business and Workforce Resilience to Climate Change

Ensuring business and industry in Somerset remains resilient to the projected impacts of climate change is important for the local economy. Additionally, a change to a low carbon society or greener economy must be delivered fairly in order to ensure a 'just transition' and ensure workforce skills and employability are preserved.

In order to achieve these goals, the workstream will:

- Design research to better understand the local skills and employment challenges relating to the climate change agenda and shift to a low-carbon economy
- Identify employment in at-risk sectors or businesses and undertake a skills gap assessment
- Develop guidance for re-skilling for training providers and relevant support bodies.
- Highlight businesses or industry susceptible to the projected impacts of climate change and aid in developing mitigation strategies to reduce the risk of these impacts.

8.7: Natural Environment

Projected meteorological changes as a result of climate change, such as warmer temperatures, increasing variability and intensity of precipitation and extreme weather events (like flooding and droughts)⁴¹, will exert pressure on ecosystems adapted to present-day conditions. Increasing the resilience of Somerset's Natural Environment to predicted impacts is essential – yet should be a minimum requirement, due to the potential for innovative projects to provide emissions mitigation and cross-sector benefits.

Theme 1: Sequestration and Land Usage Change

The workstream will explore opportunities to increase the volume of CO₂ removed from the atmosphere by trees and plants via sequestration, whilst ensuring that existing carbon stocks contained in the natural environment - such as in soils, peatlands and existing trees - are preserved and managed responsibly.

To achieve this, the workstream will:

- Identify and designate land classification scenarios to provide an evidence-base for what is required to achieve a zero-carbon county.
- Liaise with the Built Environment workstream to ensure new developments minimise impacts to the environment. For example, adapting planning policy to ensure new developments produce Environmental Net Gain of minimum thresholds (e.g. 20%). This could follow the case study of Manchester with a clear mitigation hierarchy.
- Embed Natural Capital consideration into all planning and major investment decisions to minimise the declining condition of Natural Capital assets.
- Support schemes to plant trees and increase tree cover in Somerset, such as the Urban Tree Challenge Fund or the Parish Tree Policy produced by the Re-Imagining the Levels programme.

- Work to stop peat extraction and increase peat restoration schemes in Exmoor to restore wetlands and coastal habitats.

Theme 2: Landscape Resilience

Existing ecosystems are not well adapted to predicted climatic changes, such as increased temperatures, variations to weather patterns and increasing prevalence of extreme events like floods and droughts. These changes are likely to increase both the prevalence and biodiversity of pest species and impact pollinators. This workstream will utilise the latest climatic projections to identify vulnerable ecosystems and develop opportunities to increase the resilience of the Natural Environment.

Theme 3: Co-ordination and Data Collection

Whilst all workstreams are required to identify key issues requiring a collaborative approach, co-ordination between the Natural Environment, Farming and Food, and Water workstream is particularly important. This workstream will develop a communications and implementation strategy between appropriate working groups ensuring relevant information, analysis and findings are shared.

Key objectives for this workstream are to:

- Bring together existing datasets to establish repeatable monitoring of Somerset's baseline as an ecological network for the county.
- Identify key opportunities for collaboration based upon the above science and evidence-base to ensure a targeted approach to the natural environment between relevant stakeholders.
- Engage with, or merge with, the Local Nature Partnership to ensure collective delivery is a priority and avoid duplication of work.

8.8: Transport

Emissions from transport are the largest contributor to emissions across a range of scales, from locally in Somerset (45%, with Sedgemoor and Taunton-Deane >50%)⁷ to the UK (27%)⁴² and to Europe⁴³. Since 1990, emissions totals have steadily declined across all sectors – other than transport, indicating the inherent difficulties associated with implementing wide-scale changes to sector⁷.

Whilst reducing transport emissions in Somerset is a challenge due to the rurality of the region, meaning it is difficult for public transport schemes to connect dispersed communities, the European Commission Strategy for low-emission mobility highlights the roles that local authorities can fulfil⁴³. With the diversity of Somerset and variation in access to public transport, it is unlikely for there to be a singular solution appropriate for all areas. However, the Local Authorities will positively encourage a modal shift to more active or public transport, aiming to make walking, cycling and public transport the most convenient options wherever possible in that order, and seek investment to develop, improve or upgrade appropriate existing transport links.

Although there is not a commercial airport within the administrative boundaries of the county, the Local Authorities will actively encourage behavioural change from residents to reduce the amount that the people of Somerset fly.

Theme 1: Public Transport

Increasing both the frequency and quality of service provided by public transport is important to encourage a modal shift from personal vehicle usage. Whilst active travel is carbon zero, we recognise that not all journeys are appropriate for walking or cycling. Improving the public transport provided in Somerset whilst transitioning to lower emissions vehicles can significantly reduce emissions derived from Transport.

To achieve this, the workstream will:

- Amend evaluation criteria and contract terms for passenger transport contracts awarded by SCC in the DPS review in March 2021 to encourage usage of lower emission vehicles such as electric (when technology allows) or hydrogen powered buses, particularly for council-funded services.
- Develop an innovative rural transport pilot project to reduce the demand for car travel and increase passenger transport following on from work currently investigated in South Somerset.
- Commission a data analytics study to identify potential demands for bespoke passenger transport for clusters of working age people who may be attracted to a quality service.
- Develop a detailed proposal for mass-movement rapid transport on the A38 supporting existing priority infrastructure proposals; this could provide an opportunity for a testbed for electric fleets or Connected and Autonomous Vehicles (CAV) trials in the long term.
- Explore expanding Demand Responsive Transport Provision, potentially developing additional routes in the morning/afternoon for college students.
- Encourage residents of Somerset to switch to more sustainable modes of transport away from the use of aeroplanes for business and pleasure trips.
- Explore the potential for switching Councils' own fleet vehicles away from petrol and diesel power

Theme 2: Personal Transport

Reducing the demand for car travel is essential for minimising transport emissions. Enabling active travel, via improvements to walking or cycling infrastructure or subsidising the cost of cycling equipment, can eliminate the need for car journeys. Moving forwards we will aim to make walking and cycling the default and most convenient option wherever possible. Increasing awareness surrounding the impacts associated with short car journeys may contribute to a modal shift in travel; however, under many circumstances in such a rural area, car usage can be unavoidable at present and this presents a particular challenge for Somerset to overcome. Popularising car sharing schemes can eliminate repetition of similar journeys.

To reduce the demand for car travel and incentivise a modal shift to active travel, some examples of work to be undertaken include:

- Develop a detailed countywide travel behaviour change/travel demand management proposal, focusing on community action and individual responsibility, learning from previous and current activity in Bridgwater.
- Agree walking and cycling capital programme funding allocation.
- Submit Department for Transport (DfT) Pinch Points bid focused on walking and cycling.
- Develop feasibility designs and costed schemes from current Local Cycling and Walking Infrastructure Plans (LCWIPs) while commissioning additional LCWIPs for other towns.
- Lobby Central Government for a dedicated walking and cycling fund.
- Increase awareness of the impact short car journeys can have and highlight the benefits associated with active travel via numerous engagement schemes, such as the 'Think Travel' web portal to access travel-related information.
- Examine car park charging at Council owned sites, including differential charging for electric vehicles
- Work with the energy workstream to encourage transition to electric vehicles and develop a network of charging points at appropriate locations, including on the Councils' own estate.

Theme 3: Logistics, Planning and Innovation

Engaging with relevant communities, stakeholders and organisations is crucial to promote sustainable transport. With new developments, planning strategies can be implemented to minimise the need for travel and thus reduce emissions. A holistic approach to development can reduce emissions derived from logistical operations, such as 'last-mile' deliveries or HGV freight. With the considerable lack of progress made in reducing transport emissions since 1990 across the UK, innovative ideas and concepts are required.

Some objectives to explore for the workstream include:

- Liaise with parish/town councils and other appropriate bodies to produce a list of high priority/biggest difference actions that could be taken relating to transport.
- Organise a commission to ensure engagement with academic experts and industry leaders to identify opportunities to reduce transport emissions.
- Understand logistics patterns, HGV vehicle movements and employee personal vehicle use to develop programs to reduce associated emissions, such as via car or freight share.
- Identify locations suitable for electric vehicle charging points, including on the Councils' own estates.
- Work with planners and the Built Environment workstream to ensure new developments are designed to reduce the demand for car travel.
- Launch a digital competition to design an app enabling people to reduce demand for car travel.
- Examine the roll-out of optimal speed limits to minimise carbon emissions across the county.
- Upscale the agile-working Programme used in Shepton Mallet to other district council offices, enabling work from home for all staff within Somerset Local Authorities. Highlighting the benefits from this scheme can incentivise uptake of similar programmes by private sector organisations.

8.9: Waste

Recent research highlights the potential for the UK Waste Management sector to drive reductions to greenhouse gas emissions⁴⁴. Since 1990, emissions have decreased by 70% with an acceleration in annual average abatement between 2012 and 2016 of 10%.

In Somerset, household and non-household waste contributes to a significant proportion of the region's carbon emissions – the majority (>90%) derive from methane produced by the decomposition of biodegradable waste⁴⁵.

Somerset's domestic waste and recycling is managed by Somerset Waste Partnership. Somerset is independently ranked as a 'high flying' (top 10%)⁴⁶ area in England in carbon saving from its household waste and recycling services, saving 103kg of a carbon equivalent per person⁴⁷.

Major progress in the Waste Management sector will only be achieved if waste is considered as a resource whilst increasing management of industrial and commercial waste. The workstream will look at opportunities to move towards a more circular economy and increase consideration of the relationship between Waste Management and other economic activities.

Theme 1: Commercial Waste and the Circular Economy

Nationally, commercial recycling rates are low (30%) and minimal source segregation of waste or separate food waste collection is undertaken. Targeting this sector, in conjunction with the Business, Industry and Supply Chain workstream, can provide potential for considerable emissions reductions and show Somerset's national leadership on the climate agenda.

The workstream will:

- Identify how the Local Authorities can celebrate and share best practice, whilst avoiding 'greenwash' (or the deceptive promotion of an organisation's environmental policies).
- Work with local businesses and relevant partners to identify the support and guidance they require to avoid waste, improve waste management and adopt circular economy principles to design products and essential packaging for reuse and recycling.
- Seek to pilot collaborative procurement for recycling and waste – reducing costs for businesses, improving environmental outcomes and aligning with local needs.
- Create a route-map identifying the steps required to create a more circular economy in Somerset.
- Explore opportunities to ensure that Somerset has the recycling reprocessing industry needed to match its ambitions for the future.

Theme 2: Residential Waste and Behaviour Change

The workstream will explore opportunities to encourage behavioural change across a variety of sectors, such as minimising household waste in the domestic sector and increase recycling 'on the go'. This will be supported by identifying ways to ensure adherence to adequate planning standards for waste management within new housing developments.

This will include:

- Improving domestic waste recycling opportunities by adding in additional recycling to the existing weekly kerbside collection (Recycle More). This will result in reductions to waste by 15% and increase recycling by 20-30%, and improve on our already 'high-flying'⁴⁶ carbon saving performance.
- Introducing more stringent controls that ensure even more waste is processed within the UK and not exported elsewhere. Currently over 90% of Somerset's recycling remains in the UK.
- Roll-out a behavioural change campaign ('Slim my waste, feed my face') in early 2020. This scheme intends to encourage reducing food waste within homes.
- Working with the Built Environment workstream and planning departments to ensure new development planning proposals consider resource management, waste storage, and waste disposal.
- Moving away from landfill by Spring 2020. Whilst reduction, reuse and recycling always remain better, this transition will ensure that the little waste that is leftover is mostly used to generate electricity rather than going into landfill.
- When the technology allows, to improve the carbon emissions of waste fleet by a switch to alternative technologies
- Support public engagement with circular economy business practices, including products and essential packaging designed for reuse and recycling.

Theme 3: Public Sector Waste

The public sector is a major employer in Somerset and can lead by example with how it deals with its own waste. There is potential for considerable improvement within the sector; for example, the current recycling rate in schools is only 25% and recycling across the Local authority's own buildings is patchy. Using the scale of the sector provides an opportunity to shape the market for commercial waste services in Somerset and instigate significant changes within the industry.

The workstream will:

- Develop a joined-up approach across the public sector in Somerset to maximise reuse, separate recycling and minimise waste arisings from the public sector.
- Utilise the buying power across the public sector in Somerset to create a viable commercial market offering environmentally optimal commercial waste recycling.
- Identify if there are any stakeholders in Somerset who may need additional support in order to recycle effectively seek to develop a cost-effective pilot which improves recycling and reduces waste.
- Expand the Schools Against Waste programme and incentivise schools to recycle more (including though rolling out additional services to them such as plastic pots, tubs and trays, cartons/tetrapak recycling).

8.10: Water

Climate projections predict increasing precipitation intensity and variability in the UK, leading to increased risks of flooding, drought and extreme weather events⁴⁸. Flood risks in Somerset are exacerbated by sea level rise, with low-lying regions such as the Levels and moors particularly vulnerable to these changes⁴⁹.

Additionally, predicted climatic changes impact current water management practices and adaptation schemes, which are unlikely to be robust enough to cope with these added pressures⁴⁴. Ensuring future developments consider the most recent climatic projections is required to minimise flood risk and other issues.

The requirement for the Water workstream to be cross-sector in approach is significant; alterations to land usage and management practices in both the natural environment and agricultural ecosystems are likely to impact flood risk, water quality and other aspects of the hydrological cycle. Ensuring these issues are both accounted for and minimised will be crucial to minimise the secondary consequences associated with project implementation.

Theme 1: Strategy and Policy

Improving existing strategies and policies relating to water will ensure co-ordinated response by all partner organisations, provide long-term risk assessment for predicted climatic changes, and enable access to increased sources of funding.

Examples of reviews and updates to be explored by this workstream are:

- Update internal and statutory strategies to ensure the inclusion of most recent climate change projections and associated risks
- Support the establishment of the Somerset Rivers Authority to deliver adaptation schemes to address projected risks

Theme 2: Data Collection and Analysis

Detailed modelling of changes to the flood, drought and extreme weather profile of Somerset is required to inform evidence-based project development, business cases and feasibility studies.

Initial tasks for this workstream will be to:

- Map changes to flood risk caused by climate change.
- Map changes to coastal erosion caused by climate change.
- Develop integrated flood investment strategies from predicted changes.
- Map priority regions suitable for sustainable drainage (SuDS) projects.

Theme 3: Schemes and Initiatives

Developing projects to adapt to the projected risks of climate change is crucial to ensure the communities of Somerset remain resilient to these predicted impacts.

The workstream will:

- Continue to deliver adaptation schemes to minimise the risks of flooding, drought and coastal erosion.
- Assess pre-existing adaptation schemes and infrastructure to ensure they are resilient to the most recent climate projections.
- Identify opportunities and potential funding to develop water processing infrastructure for future resilience.

9: Climate Emergency Strategy Delivery

The flowchart below aims to simplify the steps that will be taken in order to develop and deliver the final Climate Emergency Strategy.

Community engagement will be a priority throughout Strategy development. We have chosen to deliver a 'Climate Summit' in each district to provide the opportunity for as many individuals and communities to engage with the development of the Strategy. However, this is only one strand of the engagement strategy. We will also be seeking feedback from an online platform as well as events at local schools and colleges to engage with the young people of Somerset. Each workstream will identify issues requiring stakeholder or sector-specific expertise and look to engage with the relevant academic or industry experts throughout Strategy development. It is hoped that through this engagement and consultation additional or alternative themes will be identified as priority issues for individuals and communities requiring action from the Climate Emergency Strategy.

Whilst workstreams appear independent in the flowchart below, it is important for these groups to work together. A collaborative approach is required to reliably evaluate key issues and develop projects encompassing a range of issues.

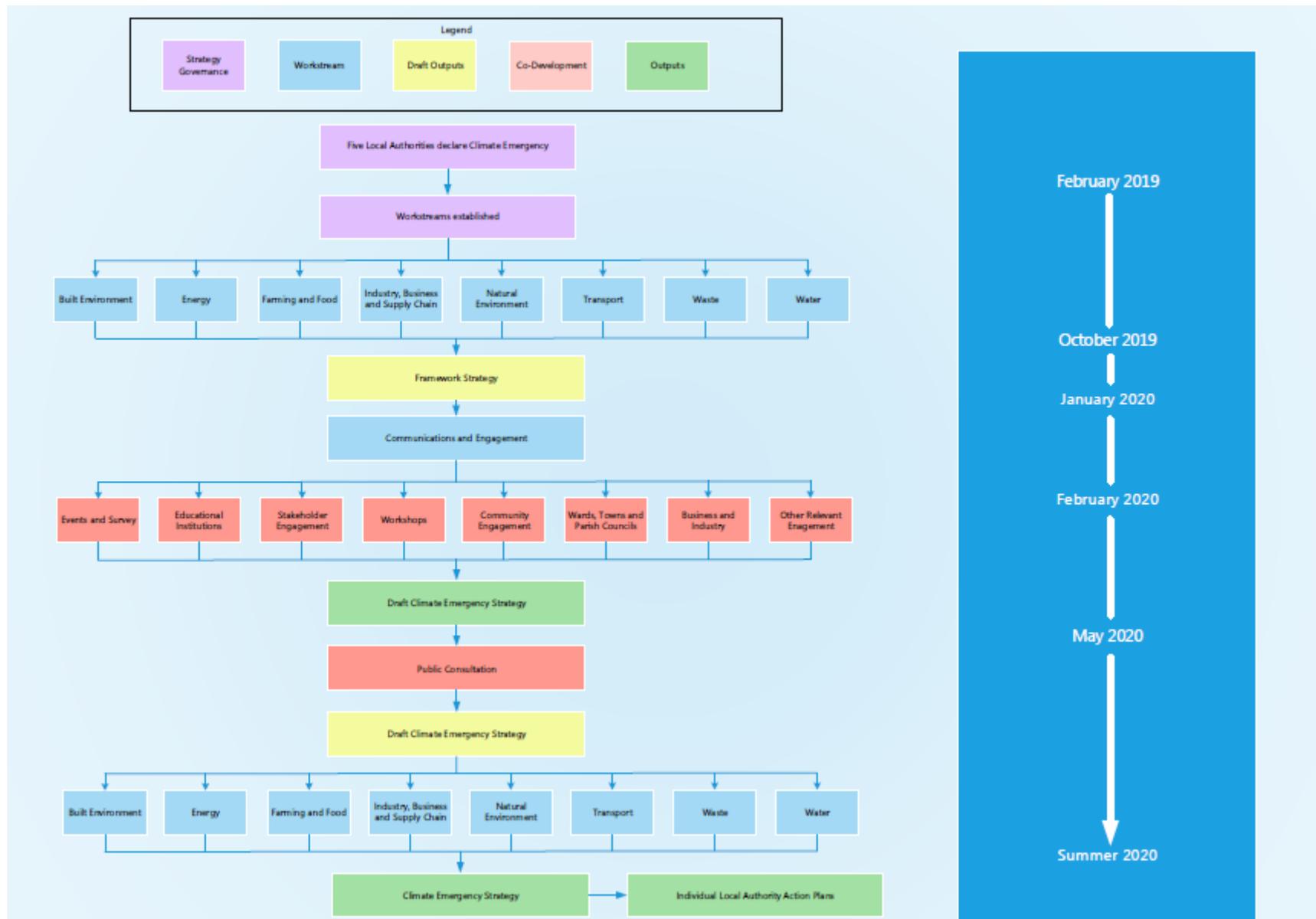
Additionally, development of the Individual Local Authority Action Plans is occurring simultaneously to the Climate Emergency Strategy. This means the Action Plans will be implemented alongside the final Strategy, ensuring that action is taken as soon as feasibly possible, once specific evidence-based projects are prioritised and developed following feedback from the public.

It is important that the evidence base and the rationale for the prioritisation of actions and projects is independently verified through a system of 'Project Assurance'. This assurance must be expert, timely and independent. It is for this reason that we will be working closely with experts from the University of Exeter, Somerset Climate Action Network, the Centre for Sustainable Energy and other relevant individuals and bodies to ensure that time, effort and resources are most effectively and efficiently focussed on a short, medium and longer-term basis.

However, actions to mitigate and adapt to the impacts of climate change are already in progress across Somerset. Whilst time is being taken to develop an evidence-based Strategy, it is key that the actions being undertaken already are not slowed down by this process. Many projects will continue to be delivered throughout Strategy development, such as those intended to increase Somerset's resilience to flood risks and the continuation of preparation for the roll-out of the Somerset Waste Partnership's Recycle More scheme in 2020.

It is key that successful projects are embedded into 'business as usual' activity and all future decision making within the Councils, businesses and throughout our communities in Somerset are taken giving due regard to the climate impact of those actions.

Somerset Climate Emergency Framework



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11: Appendix

Somerset County Council

Full Council resolves to:

- a) affirm the Council's recognition of the scale and urgency of the global challenge from climate change, as documented by the latest Special Report of the Intergovernmental Panel on Climate Change, and declares a climate emergency; and
- b) mandate the Policy and Place Scrutiny Committee to review and recommend what further corporate approaches can be taken through a SCC Climate Change Strategy and to facilitate stronger Somerset-wide action through collaboration at a strategic, community and individual level; and
- c) pledge to work with partners, including the Heart of the South West LEP, individuals and community action groups across the county to identify ways to make Somerset carbon neutral by 2030, taking into account both production and consumption emissions (scope 1, 2 and 3); and
- d) write to the Secretaries of State for Business Energy & Industrial Strategy, Transport, Environment, Food & Rural Affairs and Housing, Communities & Local Government calling for the creation, provision or devolution of powers and resources to make achievement of the 2030 target possible here in Somerset; and
- e) report to Full Council before the end of 2019 with the actions the Council has and will take to address this emergency; and
- f) allocate £25,000 from the Council's 2018/19 contingency budget and authorise the Lead Director for Economic and Community Infrastructure to utilise this funding to resource the work necessary to support Scrutiny Committee for Policies and Place and to assess any specific recommendations and financial implications. Any unspent allocation will be carried forward into 2019/20 to continue the work.

Somerset West and Taunton District Council

Shadow Full Council resolves:

1. To declare a climate emergency.
2. With partners across the district and region, to start working towards making Somerset West and Taunton carbon neutral by 2030, taking into account emissions from both production and consumption (7).

3. To call on the UK Government to provide guidance and the powers and resources to make carbon neutrality possible by writing to local MPs, the Secretaries of State for Business Energy & Industrial Strategy, Transport, Environment, Food & Rural Affairs and Housing, Communities & Local Government.
4. To develop a Carbon Neutrality and Climate Resilience Plan, starting from July 2019, with a cross party working group and the necessary officer support to assist with investigative work, drafting the plan and the delivery of early projects.
5. To report to Full Council before the end of 2019 with costed proposals for projects for the Council to effectively start addressing the climate emergency, which could include:
 - a) Enabling more cycling, walking and use of shared and public transport.
 - b) Providing electric car charging points in car parks and other suitable locations, including for use by council tenants and council vehicles.
 - c) Adopting high energy efficiency standards and providing for the effective use of recycling services in new buildings through the planning system.
 - d) Demonstrating and developing a programme for retrofitting high standards of energy saving and insulation in existing council buildings, including housing, and assets; initially focusing on where the greatest benefits could be gained.
 - e) Promoting waste reduction, reuse and recycling on the go, and supporting community projects.
 - f) Sourcing electricity used by the council from renewable energy suppliers and providing support for smart energy infrastructure, including demand management and storage.
 - g) Supporting green businesses and social enterprises.
 - h) Review of planning policies and investment opportunities for local renewable energy and infrastructure and environmental markets, as well as divestment from fossil fuels.
 - i) Adaptation for flooding, coastal erosion and other impacts of climate change.
 - j) The appointment of a specialist officer to develop and champion the delivery of the Carbon Neutrality and Climate Resilience Plan.
6. To provide an annual review and update of the plan thereafter.
7. A provisional budget of £25,000 to be allocated to allow this work, including early projects agreed by the working group, to be undertaken either through resources already available or through commissioning. This sum to include £15,000 as a

supplementary budget allocation from the General Fund in 2019/20, to be taken from general reserves and returned if able to be undertaken from already available resources, and £10,000 to be prioritised from the proposed HRA Maintenance Budget in 2019/20.

South Somerset District Council

The Council have agreed to:

1. Note the background information above.
2. Declare its recognition of a 'Climate and Ecological Emergency'.
3. Develop a Strategy by the Full Council meeting on 19th September 2019*, that sets ambitious targets to protect the environment and ecology; to reduce Carbon Emissions; and for a) South Somerset District and b) the Council to become carbon neutral
4. Develop a delivery plan that sets out the necessary policies, projects and actions to deliver the targets, and identifies the resources necessary to enable the delivery of the strategy.
5. Work with councils and other partners in Somerset to develop collaboration, joint approaches and share resources in tackling climate change and protecting the environment

*Now Autumn 2019

Sedgemoor District Council

Proposed Climate Change Motion that Council:

- a) Affirms the recognition of the scale and urgency of the global challenge from climate change, as documented by the latest Special Report of the Intergovernmental Panel on Climate Change
- b) Pledges to work with partners, including the HoTSWLEP, Somerset County Council, Somerset Districts, individuals and community groups to identify ways to make Sedgemoor and Somerset carbon neutral by 2030, taking into account both production and consumption emissions
- c) Joins with the County Council and Somerset Districts in writing to the Secretaries of State for Business Energy and Industrial Strategy, Transport, Environment, Food and Rural Affairs and Housing, Communities and Local Government calling for the creation, provision or devolution of powers and resources to make achievement of the 2030 target possible here in Sedgemoor and Somerset
- d) Allocates up to £25,000 from the Council's Community Development Fund and authorises the Strategic Director (Doug Bamsey) to utilise this funding to resource the work necessary and develop a strategy and actions

- e) Will receive a report before the end of 2019 with the actions that have been and will be taken to address this target.

Mendip District Council

Full Council calls on Mendip District Council to:

1. Declare a 'Climate and Ecological Emergency';
2. Pledge to make the district of Mendip carbon neutral by 2030, taking into account both production and consumption emissions (scope 1, 2 and 3);
3. Call on Westminster to provide the powers and resources to make the 2030 target possible;
4. Work with other councils and governments to determine and implement best practice methods to limit Global Warming to less than 1.5°C;
5. Continue to work with partners across the district and region to deliver this new goal through all relevant strategies and plans;
6. Submit a bid as part of the Council's budget setting process for an additional £100,000 to fund a 'Sustainability' Officer Post for a two-year period to champion the scoping and delivery of the District Council's Climate Emergency 2030 commitment.
7. Report to Full Council every six months with the actions the Council will take to address this emergency.