



South Gloucestershire Council Climate Emergency Declaration

South Gloucestershire Council Climate Emergency Strategy

Review of the Year 4 Climate Emergency Action Plan

South Gloucestershire Council Climate Emergency

University Advisory Group

UWE Bristol

October 2023

This review was commissioned by and prepared for South Gloucestershire Council.

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Introduction

The University of the West of England supports South Gloucestershire Council in their Climate Emergency work through a University Advisory Group. This group meets monthly with representatives of South Gloucestershire Council's Climate Emergency Team to review, support and critique the Climate Emergency activities.

Specifically, the University Advisory Group has

- Supported South Gloucestershire Council in the design and implementation of Climate Emergency Action Plan.
- Provided advice and support for the Local Strategic Partnership's climate emergency activity.
- Provided a technical review of the outcomes of the Action Plan.
- Advised on the key issues to include in the Action Plan.
- Provided a critical review of the actions needed for the Council and the South Gloucestershire area to meet the Climate Emergency ambitions, Plan 2030.

This review has considered the Year 4 actions using the detailed Year 4 Spreadsheet Tracker produced by the Council (South Gloucestershire Council, 2023). This review also provides recommendations for actions and priorities for the Year 5 Action Plan.

This review is undertaken at a time the UK is facing political and economic uncertainty, a cost-of-living crisis and energy supply and affordability challenges. Additionally, it is notable that the national political rhetoric around climate change and net-zero policies has changed. South Gloucestershire is not immune to these challenges and the Council itself faces considerable budget challenges across the short and medium term.

The review comprises of a short overview of the global and national contexts before considering the changing profile of carbon dioxide emissions across South Gloucestershire. The next section provides a review and commentary on the Year 4 Action Plan outcomes. An updated strategic context covering political, environmental, social, technical, legal, and economic issues (PESTLE) is included which is followed by the conclusions and recommended actions.

The Climate Context

The Global Context

In 2023, the global impacts of climate change were felt at new and worrying scales. For decades, the scientific community warned of extreme climatic conditions in the future, and we have seen the manifestation of these warning over the last two decades but most notably in 2023. Ripple et al., 2023¹, summarised several climate-related records broken around the world in 2023. For example there have been:

- Exceptional heatwaves experienced around the world resulting in record high temperatures. June to August 2023 was the warmest period ever recorded and July 2023 was the highest global daily average surface temperature ever recorded.
- 38 days with a global average temperature above 1.5°C.
- Global and North Atlantic Sea surface temperatures breaking records.
- Antarctica sea-ice levels at all time low daily relevant extent levels.

These extreme records coupled with notable climate impact events such as wildfires on multiple continents (e.g. Rhodes, Canada, Hawaii, Italy and in Cannich, Scotland) and heavy rainfall / flooding events (e.g. Greece, Italy, Libya, in Nottinghamshire post Storm Babet) illustrate that the world is entering unknown territory in our global climate emergency.



Figure 1: Illustrations of global climate impacts over time (sea surface temperatures and change in mass of icesheets)

Global CO₂ Emissions

Following the small dip in carbon dioxide (CO₂) emissions during the Covid pandemic, global CO₂ emissions have now rebounded and the concentration of carbon dioxide, CO₂, in the atmosphere measured at the US National Oceanic and Atmospheric Administration's Mauna Loa Atmospheric Baseline Observatory exceeded 420 parts per million, more than 50% above pre-industrial levels and an increase of 1.8 parts per million.

¹ Ripple, W.J., et al; 2023, The 2023 state of the climate report: Entering uncharted territory, BioScience, 1, 1-10, <https://doi.org/10.1093/biosci/biad080>

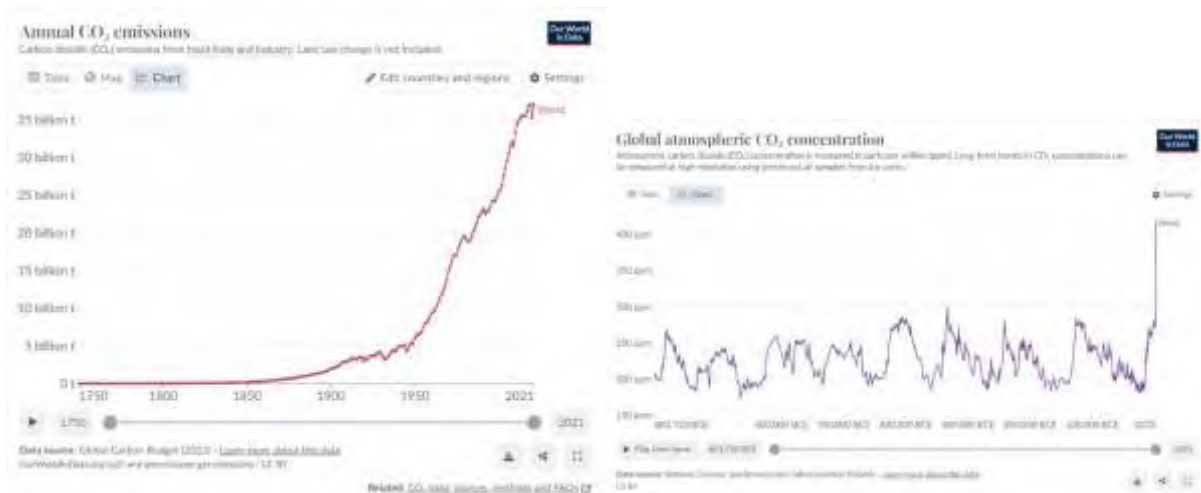


Figure 2: Global CO₂ emissions and concentrations over time

Without further and rapid action, the world faces a rise in temperature of between 2.7 and 3 degrees centigrade, or even higher, by the end of the century. In 2018, the Intergovernmental Panel on Climate Change (IPCC) report called for action by 2030 to contain global heating to only 1.5°C. At that time, we had 12 years to meet that goal, from 2023 we will have just 7. In October 2022, the UN published its Emissions Gap report for 2022² which found that there is “no credible pathway to 1.5°C in place” and that “woefully inadequate” progress on cutting carbon emissions means the only way to limit the worst impacts of the climate crisis is a “rapid transformation of societies”.

In November 2022, the COP27 Summit took place in Sharm el-Sheikh, Egypt. Below is a summary of the key outcomes from that Summit.

- There was an agreement on the development of a fund for developing countries to provide **financial assistance for loss and damage** to rebuild the infrastructure (physical and societal) that has been destroyed by extreme events. However, there was no agreement on how the finance should be provided and where it should come from. Linked to this, was the call for a reform of the World Bank and other publicly funded institutions.
- The **ratchet mechanism** agreed at COP26 (the process whereby countries agree to strengthen their commitments on reduction GHG emissions each year to ensure we stay within 1.5°C limit) was retained despite some countries trying to abolish it.
- There was an agreement to boost ‘**low emissions energy**’ but this was not defined and it was clear that many countries were looking to push gas forward as a lower-carbon transition fuel in the shift away from coal.
- There was a failed resolution to take a step further than COP26 and phase down all fossil fuels and as a result the resolution was the same as COP26 to **just focus on coal**.
- The **COP26 commitment on adaptation was retained** despite some countries looking to remove it. This is for flood defences, wetland preservation, reforestation etc.
- The **politics of climate science** was evident with some countries wanting IPCC scientific evidence and references to be removed from the final text. However, there a notable recognition of the health impacts with a reference to the ‘right to clean healthy and sustainable environments’ growth in the influence of health professionals.

² <https://www.unep.org/resources/emissions-gap-report-2022>

COP28 will take place from 30 November – 12 December 2023 in the United Arab Emirates. With the lack of notable progress at COP27, the climate impacts experience in 2023, and the findings of the UN Global Stocktake Report³, there is a need for more rapid and urgent progress to meet the goals of the Paris Agreement. The UN Global Stocktake Report concluded that the Paris Agreement has galvanized climate action globally and that significant progress has been made, however, it also makes clear that much more must be done and outlines how to bring implementation on track.

“I urge the world to carefully study the global stocktake synthesis report. It is a report card of our collective climate action. And not a good one. COP28 is our chance to make a dramatic course correction. Let's seize that chance.”

Simon Steill, UN Climate Change Executive Secretary

The UK Context

Urgent action is needed to meet the United Kingdom (UK) commitment to achieve the net zero by 2050. The UK's Net Zero Strategy⁴ sets out the strategic pathway to a net zero UK by 2050. In the summer of 2022, the High Court found that the government's Net Zero Strategy was 'unlawful' because it does not meet the obligations under the Climate Change Act to produce detailed climate policies that show how the UK's legally binding carbon budgets will be met.

The Climate Change Committee Progress Report to Parliament (June 2023) highlighted that the UK was not on track to meet their Nationally Determined Contribution (NDC) under the UN process for a 68% reduction in emission by 2030. On 20th September 2023, the Prime Minister made a speech that had notable consequences for the feasibility of achieve net-zero ambitions.

- A deal has been reached to electrify steelmaking at Port Talbot;
- A new cap has been implemented for the UK emissions trading scheme (ETS);
- The Zero Emission Vehicle (ZEV) mandate has been implemented in legislation;
- Auction Round 5 (AR5) for Contracts for Difference (CfDs) failed to attract bids for offshore wind projects.
- Exemptions / delays to phase-out dates for fossil-fuelled cars and boilers.
- A decision not to regulate for improved energy efficiency of rented homes.

None of the Prime Minister's announcements had emissions impacts quantified or evidence to support the Government position that net zero would still be met. Based on the information available, the CCC has made an independent assessment⁵ of how these developments will affect plans to meet the targets. The CCC headlines are:

- Confirmation of the ZEV mandate, the recent deal with Tata Steel for industrial electrification in Port Talbot, implementation of a cap for the ETS are positive policy steps forward.
- All other statements (that could be evaluated with sufficient evidence available) would make Net Zero considerably harder to achieve. For example:
 - the exemption of 20% of households from fossil boiler the phase-out will have an impact on emissions all the way out to 2050

³ The UN Global Stocktake Report (published September 2023) is the main mechanisms through which progress under the Paris Agreement is assessed https://unfccc.int/sites/default/files/resource/sb2023_09E.pdf

⁴ <https://www.gov.uk/government/publications/net-zero-strategy>

⁵ <https://www.theccc.org.uk/2023/10/12/ccc-assessment-of-recent-announcements-and-developments-on-net-zero/>

- increasing the grant to £7,500 heat pumps but not providing a larger budget would serve fewer homes.
- Delay the fossil car phase-out to 2035 would be offset by the ZEV mandate but it creates widespread uncertainty for consumers and manufacturers.
- Failure to adjust the Administrative Strike Price for offshore wind in AR5 resulted in no contracts being awarded – this needs to be resolved.
- Wider risks associated with the political tone and rhetoric related to net zero undermining previous good work.

The need for climate action, mitigation and adaption, is now unambiguous. The Office for National Statistics (ONS) has published the temperature related relative mortality risks for England and Wales using data from 1998-2022⁶. As illustrated in **Figure 3**, the mortality risks increase for temperatures above 22°C which is now frequently experienced across the UK.

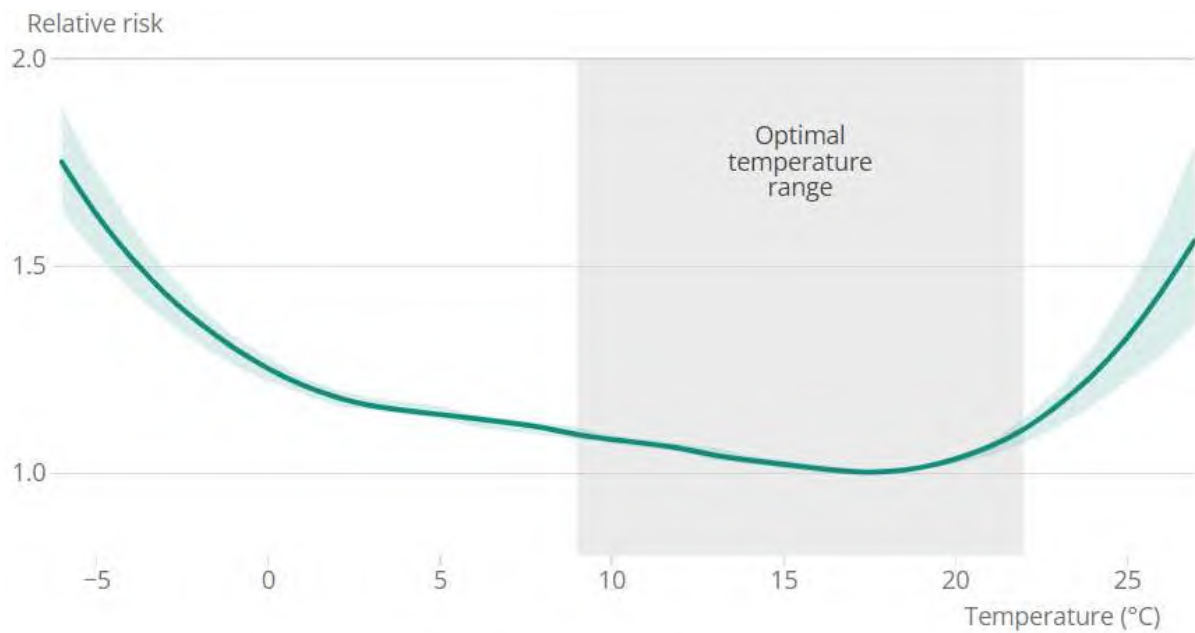


Figure 3: Temperature related relative mortality risk, England and Wales, using data from 1988 to 2022

⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/climaterelatedmortalityandhospitaladmissionsenglandandwales/1988to2022#temperature-related-mortality>

South Gloucestershire Area Emissions

South Gloucestershire Council area emissions using UK carbon estimations

The most recent UK government data for local authority carbon dioxide emissions covers the year 2021. A summary of the 2019, 2020 and 2021 territorial emissions and emissions within the control of the local authority for key sectors are provided in Table 1 and illustrated in Figure 4. Within Table 1, the sector total and area total emissions are colour coded to illustrate which years had the highest (red), middle (yellow) or lowest (green) emissions to illustrate year-on-year trends.

- In 2021, the total territorial emissions were 1594.8 kt CO₂e. The total emissions within the influence of the Council were 1099.5 kt CO₂e (495.3 kt CO₂e lower). Emissions outside of the scope of the local authority control include agricultural soils emissions, large industrial installations, diesel railways and motorways.
- There is a notable drop in emissions in 2020 due to the Covid pandemic restrictions which then rebound in 2021. This is seen in the commercial and domestic sector but is especially noticeable in the transport sector where Covid restrictions reduced personal and business travel.
- However, while the total 2021 emission have rebound they are not back to pre-pandemic levels - 2021 is still 6% lower than 2019 this may be illustrative of a sustained shift in travel behaviour. This post lockdown rebound was expected and follows national trends being primarily due to the increase of road transport emissions that lockdown measures reduced. Increases also occurred from the residential sector, due to a colder winter in 2021 compared to 2020 and increases in emissions from power stations.
- The largest contributing sectors continue to be domestic, industry and transport contributing 32%, 21% and 35% of the emissions respectively in 2021.
- In 2021, the per capita emissions were 5.4 tCO₂e.

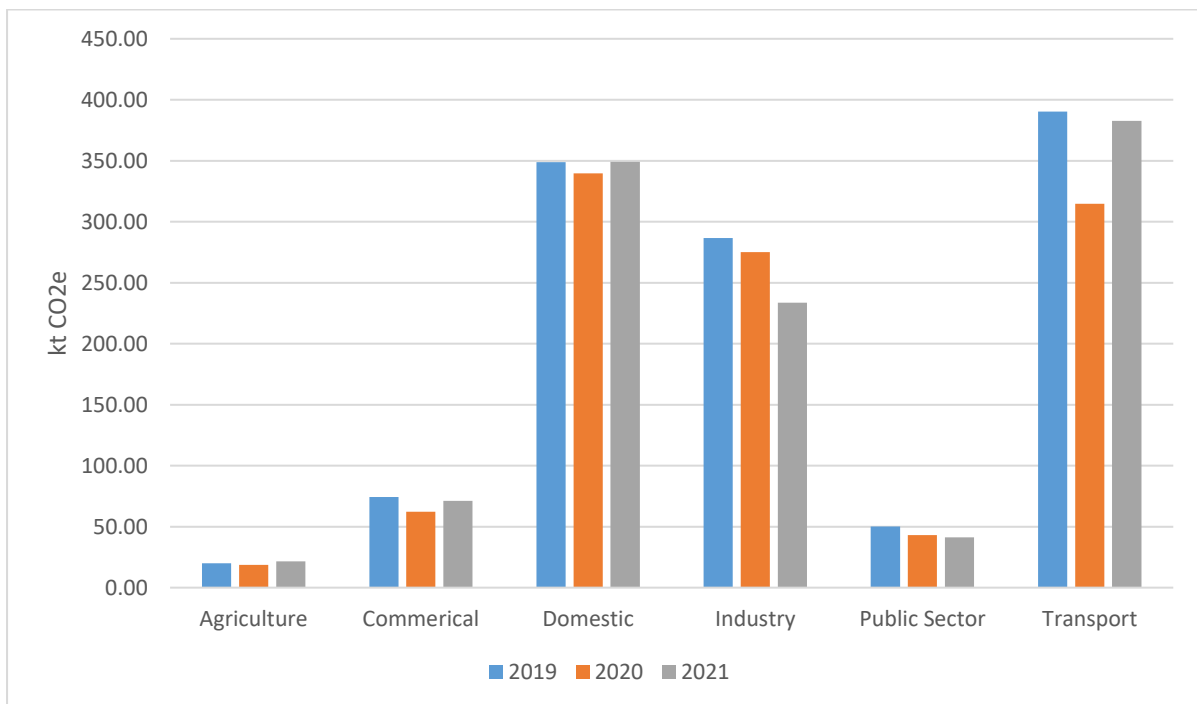


Figure 4: Area emissions within the influence of South Gloucestershire 2019-2021

Table 1: South Gloucester Area Emissions 2019-2021

		Territorial Emissions			Emissions within influence		
LA GHG Sector	LA GHG Sub-sector	2019	2020	2021	2019	2020	2021
		kt CO2e	kt CO2e	kt CO2e	kt CO2e	kt CO2e	kt CO2e
Agriculture	Agriculture Electricity	4.26	3.44	3.84	4.26	3.44	3.84
Agriculture	Agriculture Gas	0.41	0.39	0.53	0.41	0.39	0.53
Agriculture	Agriculture 'Other'	15.28	14.76	17.26	15.28	14.76	17.26
Agriculture	Agriculture Soils	2.38	2.34	2.47	0.00	0.00	0.00
Agriculture Total		22.33	20.92	24.10	19.95	18.58	21.63
Commercial	Commercial Electricity	54.33	43.16	50.71	54.33	43.16	50.71
Commercial	Commercial Gas	17.77	17.81	18.99	17.77	17.81	18.99
Commercial	Commercial 'Other'	2.26	1.31	1.34	2.26	1.31	1.34
Commercial Total		74.36	62.28	71.04	74.36	62.28	71.04
Domestic	Domestic Electricity	91.71	87.75	89.89	91.71	87.75	89.89
Domestic	Domestic Gas	230.03	225.55	232.76	230.03	225.55	232.76
Domestic	Domestic 'Other'	27.15	26.30	26.47	27.15	26.30	26.47
Domestic Total		348.88	339.60	349.12	348.88	339.60	349.12
Industry	Industry Electricity	63.37	51.77	60.06	63.37	51.77	60.06
Industry	Industry Gas	58.70	54.24	75.37	58.70	54.24	75.37
Industry	Industry 'Other'	164.51	169.16	98.31	164.51	169.16	98.31
Industry	Large Industrial Installations	17.64	18.46	16.42	0.00	0.00	0.00
Industry Total		304.23	293.63	250.16	286.58	275.17	233.74
Public Sector	Public Sector Electricity	28.71	22.46	22.00	28.71	22.46	22.00
Public Sector	Public Sector Gas	21.10	20.31	18.95	21.10	20.31	18.95
Public Sector	Public Sector 'Other'	0.41	0.18	0.19	0.41	0.18	0.19
Public Sector Total		50.21	42.95	41.13	50.21	42.95	41.13
Transport	Diesel Railways	12.90	10.06	10.86	0.00	0.00	0.00
Transport	Road Transport (A roads)	166.70	132.89	152.96	166.70	132.89	152.96
Transport	Road Transport (Minor roads)	218.47	176.89	224.08	218.47	176.89	224.08
Transport	Road Transport (Motorways)	505.48	408.23	465.47	0.00	0.00	0.00
Transport	Transport 'Other'	5.24	5.08	5.82	5.20	5.05	5.78
Transport Total		908.79	733.16	859.19	390.37	314.83	382.82
South Gloucester Area Emissions Total		1708.80	1492.54	1594.75	1170.35	1053.41	1099.49
Source Data: UK greenhouse gas emissions: local authority and regional datasets 2005-2021							

Plan 2030 (University of the West of England University Advisory Group, 2022) estimated that South Gloucestershire as an area will, on current estimates, have a residual CO₂ emission of some 5-600 kt in 2030, approximately half of the 2020 current emission. Most of this residual comes from territorial emissions from industry, transport, and the domestic sector. This was calculated assuming that the national actions set out in the UK Net Zero Strategy achieve the intended 78% reduction by 2035. This is a major assumption and given the recent national announcements and analysis by CCC, the feasibility of achieve net-zero ambitions could be undermined. In the absence of any further local action to reduce territorial emissions over and above national actions South Gloucestershire will need to determine how this residual could be managed through compensation actions such as offsetting. Land will need to be acquired and long-term funding for the ongoing management of the

offset secured. Alternatively, enhanced local action can seek to mitigate this residual and thus work towards achieving the 2030 net zero goal for the area of South Gloucestershire.

South Gloucestershire Council’s estate emissions using the Councils estimations

Focussing on the carbon emissions from the Councils own estate there are encouraging signs that many of the carbon reduction actions are having a positive impact, however, more and quicker action is still required. Total greenhouse gas (GHG) emissions in 2022/23 have decreased by 4.98% since the previous year (74% since the base year 2009/10), which equates to a reduction of equivalent 450 tonnes (CO₂e). This has been achieved by:

- A reduction in energy consumption by 4% in 2022/23 compared to the previous year due to reductions in energy use across the Council estate, street lighting and vehicles fuels.
- Fuel use on Council fleets has decreased by 1% compared to previous years as the fleet moves towards electric vehicles.
- Staff mileage has increased in 2022/23 but remains below pre-Covid levels suggesting a retained shift in travel behaviour and working practices.

As Figure 5 illustrates, the 4.98% CO₂e emission reduction, while positive, is still behind target to achieve the 2030 target. Schools and Corporate Buildings remain the largest sources in 2022/23 with 41% and 27% of the GHG emissions respectively. Actions identified by the Council such as reducing energy consumption in existing schools and Council buildings through retrofitting fabric improvements, energy control systems, technology upgrades, solar PV and phasing out fossil fuels as a heating source will continue to be incredibly important and need to be accelerated.

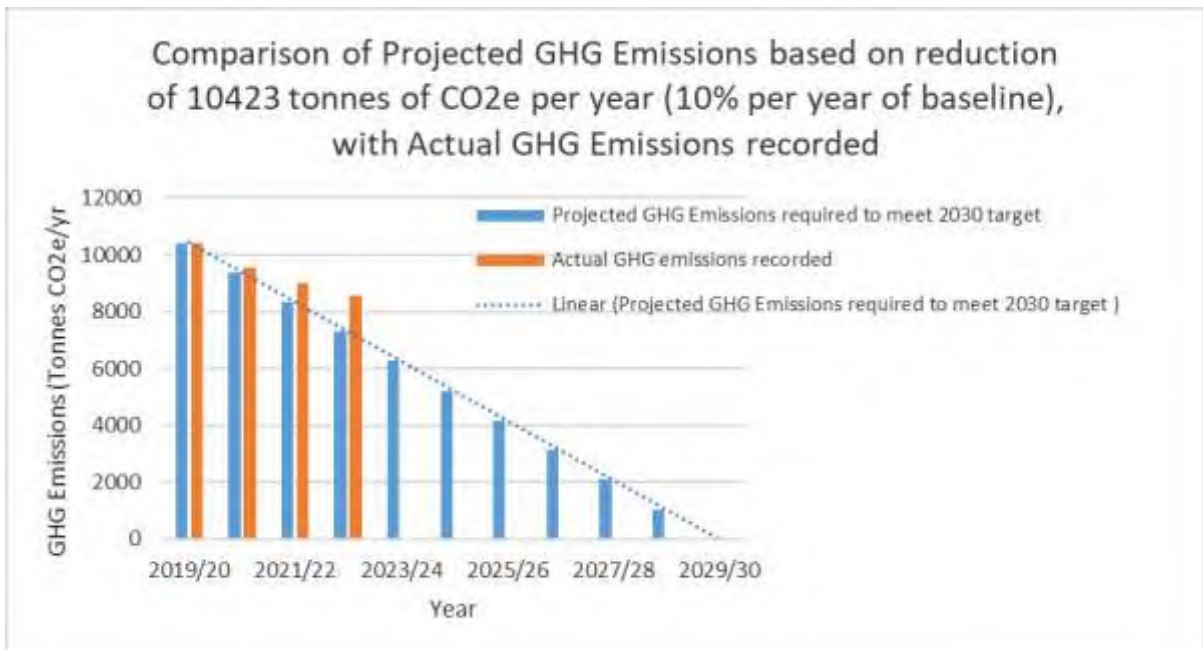


Figure 5: Projected GHG emissions against actual GHG emissions (Council data)

According to the South Gloucestershire Net Zero Dashboard (2023)⁷, an estimated annual total of 257 Gigawatt (GWh) hours of energy was generated from renewable sources within South Gloucestershire in 2022. Solar photovoltaic (PV) projects were the most significant contributors to renewable energy generation, generating an estimated 94.9 GWh. By the end of 2022, South Gloucestershire had a total of 154MW of installed renewable energy capacity which is 1MW more

⁷ <https://beta.southglos.gov.uk/static/d500fe265f266cde0f49944f322f3ff2/South-Gloucestershire-2023-Net-Zero-Dashboard.pdf>

than in 2021. This is, made up of: 98MW Solar PV; 8MW wind; and 46 MW from other sources (which include biomass, landfill gas, energy from waste and heat pumps). Solar PV is the largest technology type, making up two-thirds of the capacity installed. There is slow progress at present in the installation of large-scale renewable energy with South Gloucestershire, there is a significant amount of Solar PV and battery storage capacity currently in the planning system – 504 MW and 1,122 MW respectively. This is a sizable increase from last year and shows a significant pipeline of projects. It is hoped that many of these projects will complete their journey through the planning system in due course.

South Gloucestershire Climate Emergency Action Plan

South Gloucestershire Council declared a Climate Emergency on 17th July 2019⁸. As part of this declaration, the Council pledged to provide the leadership to enable South Gloucestershire to become carbon neutral by 2030. The South Gloucestershire Climate Change Strategy⁹ contains commitments made by the Council as part of the Climate Emergency declaration and subsequent climate emergency action plan(s). The overarching vision is:

For a climate resilient South Gloucestershire with a thriving low carbon economy and lifestyle reflected in our travel, homes, businesses, and communities, where nature can flourish.

To deliver the commitments made in the Climate Emergency declaration, the aims set out in the strategy document are:

- For South Gloucestershire to become carbon neutral by 2030,
- To maximise the generation of renewable energy from installations located within South Gloucestershire,
- For South Gloucestershire to be prepared for the local impacts of the Climate Emergency,
- For nature in our local area to be more protected, connected, and healthy and biodiversity increased,
- To plant trees across South Gloucestershire by 2030 to double tree cover.

Summary of South Gloucestershire Climate Emergency Actions

As part of the declaration, the Council produces a yearly climate emergency action plan and reports on progress towards the delivery of the plan. This report forms the independent review of progress on the delivery Year 4 Action Plan for the period 2022/23. The detailed Action Plan progress tracker provides a portfolio of projects collectively moving South Gloucestershire towards a net zero 2030 future. The Year 4 portfolio contains 78 active projects. The number of projects varies between each theme and the state of project development differs between and within themes as does the RAG status (Table 2). The Council’s own assessment of their projects using a RAG rating highlights the following:

There are 44 projects highlighted as Green (project on track, no concerns)	44
There are 27 projects highlighted as Amber (minor slippage in progress)	27
There are 7 projects highlighted as Red (no progress, major concerns)	7

Table 2: Theme actions by RAG status

Theme	Total	Green	Amber	Red
Cross Cutting	20	12	7	1
Buildings/Built Development	15	9	5	1
Transport (infrastructure / Highways)	13	4	7	2
Renewable Energy	8	3	3	2
Green Infrastructure & Nature Recovery	12	9	2	1
Resources & Waste	2	1	1	0
Adaptation & Resilience	8	6	2	0
Total	78	44	27	7

⁸ <https://beta.southglos.gov.uk/wp-content/uploads/Climate-Emergency-Declaration.pdf>

⁹ <https://beta.southglos.gov.uk/wp-content/uploads/Climate-Emergency-Strategy.pdf>

Table 3: Theme action by project stage

Theme	Total	Prepare	Develop	Implement
Cross Cutting	20	0	4	16
Buildings/Built Development	15	0	6	9
Transport (infrastructure / Highways)	13	0	2	11
Renewable Energy	8	0	6	2
Green Infrastructure & Nature Recovery	12	0	0	12
Resources & Waste	2	0	0	2
Adaptation & Resilience	8	0	1	7
Total	78	0	19	59

The previous review of the Council’s Climate Emergency Action Plan (October 2022) explored a detailed portfolio of 79 projects. There are 78 projects in the October 2023 review including 22 projects marked as ‘New’. These observations illustrate the significant progress that the Council have made over the four years of Climate Action Plans but there appears to be more projects at risk in 2023. The follow is observed:

- **RAG proportions** - The proportion of Green/Amber/Red actions has negatively changed. In October 2022, the proportions were 67%/31%/2% respectively compared to 56%/34%/10% respectively in October 2023.
- **Status of action** - Encouragingly, a greater proportion of actions (76%) are at the ‘implement’ stage in October 2023 compared to last year (63%).
- **Budget** - Only nine actions have an assigned budget, an identified external funding or noted where the existing officer resource can be used. It isn’t clear whether the assigned budget is sufficient for the magnitude of the task.
- **Accountability** - Importantly, all 78 actions have a named Project Manager and Responsible Body identified. This is a hugely important step to ensure accountability and progress with actions.
- **Project brief and SMART targets** - Not all the projects have a project brief, however, the project description and the SMART target commentary together provide an appropriate review of status and progress of each project. The level of detail associated with each project varies, perhaps indicating a more important or developed project when extended details are provided. In other cases, the brevity of detail provided might indicate an immature project or a less impactful one.
- **Green Rated Projects:** Forty-four projects listed in the Action Plan are identified as Green in the RAG assessment and thus are progressing satisfactorily without concerns. However, new column with a commentary or a semi-quantitative assessment could be added to identify whether or not the rate of progress is sufficient for the identified project to make its intended contribution to the net zero and nature recovery goals. It is encouraging to see the Decision Wheel being used on >50 projects to date.
- **Amber Rated Projects:** Twenty-seven of the projects in the Action Plan are coded Amber in the RAG assessment and thus are considered to be off track. The nature of the delay is described in sufficient detail in many cases.
- **Red Rated Projects:** Seven of the projects in the Action Plan are coded Red in the RAG assessment and thus are considered to be of major concern and at risk. The projects are in five thematic areas: two from Transport and Infrastructure, two from Renewable Energy, one each from Buildings and Built Development, Green Infrastructure and Nature Recovery

and Crossing-Cutting themes. The reasons for a lack of progress is linked in most cases to people/organisations not being in post (five of seven projects) but encouraging these personal gaps appear to be already addressed or through alternative projects being identified that duplicate effort (two of seven projects).

- The **school’s energy tracking software project** to help schools to reduce energy use, costs and carbon emissions only appointed an officer in September 2023. This project should see progress in the next Action Plan year (2023-2024).
- The **community access to bikes and subsidised bike sale scheme** and the **e-bike scheme** to increase the uptake of active travel have not been taken forward as there are alternative schemes in operation. Avoiding duplication of effort makes sense but an action should be included in the Year 5 Action Plan to support and track progress with the Yate Community Bike Hub and the TIER e-bike hire scheme to ensure it is a suitable replacement project.
- The **aggregate generation from dispersed renewables project** and the **explore innovations to energy retail, demand and supply project** have not been progressed as there is no officer in post to take forward. The need to recruit into these projects is essential as they will help that Council tackle a major challenge in their net-zero journey.
- The **regional mapping of risks to the transport network project** has not commenced as the work was intended to be carried out across the region in conjunction with the Mayoral Combined Authority who has only recently now appointed an adaptation lead officer and it is anticipated that this work will form part a much-welcomed strategic approach across the West of England towards adaptation.
- The **commission of support for businesses that supply SGC with goods and services to achieve net zero** project has been delayed due to a change in service supplier who will be able to identify the Councils key emitters by the end of 2023.

A summary of the recommendations based on the review of the Year 1 Action Plan for Year 2 (Table 7) and following the review of the Year 2 Action Plan for Year 3 (Table 8) can be found in Appendix A. Table 4 provides an assessment of steps taken against the recommendations made following the review of the Year 3 Action Plan (i.e. in 2022) and Table 5 provides a summary of recommendations made following the review of the Year 4 Action Plan (i.e. in 2023).

Table 4: Assessment of actions against the recommendations made in the review of the Year 3 Action Plan

Issue to be addressed	Progress with recommendation
Ambitious and disruptive actions - Innovative ideas and solutions are needed to really drive down emissions. The Council has the ambition and some of the powers to implement radical and disruptive actions to achieve change but to do so will require a willingness to act and additional resources of capital, revenue, and staff.	Ongoing – There is no specific action associated with this recommendation, but it should be retained as an overarching principle to all future iterations of the Action Plan to be ambitious and disruptive.
Funding Mechanisms - Actions may include initiatives to develop financial mechanisms to accelerate adoption of decarbonisation activities, development of heat networks, support for home retrofit and the development of large scale retrofit supply chains, actions to support nature recovery	Ongoing – It is noted in the Action Plan there are several key theme-specific funding streams identified and, in some projects, key funding obtained for various initiatives. This is encouraging and should continue to be a core recommendation as without these financial

and the production and use of bioenergy and green hydrogen. These are ambitious initiatives that go beyond the current scope of business as usual.	mechanisms and funding streams many of the projects will not progress.
Green economic development - Work with existing local business leaders and new businesses to progress and pioneer new green technologies and services which delivers climate solutions -and will boost and future proof the local economy. Progress development of new mechanisms to draw in and scale up external green investment funding.	Ongoing – Partnership working is a key theme across many projects especially with SMEs e.g. active travel projects, prepare local business for the impacts of a changing climate on infrastructure, supply chains and staff etc.
Internal training - Expand internal training to build awareness and increase capability within the authority and across the district.	Ongoing – Notable training activities implemented for internal staff and wider stakeholders e.g. Climate and Nature Decision Wheel, communication and engagement strategy, Love your Patch etc
Training offer to South Gloucestershire residents and enterprises - Expand the offer of training across the district targeting major employers, schools, town and parish councils, residents' association, and places of worship, scouts and guides charities and community groups.	
Communication and information campaigns - Re-engineer communication and information campaigns to build awareness of mitigation and adaptation needs and direct residents and enterprises to where support can be found. Engage with LSP, other stakeholders and residents to promote Climate and Nature Emergency training. Prepare and deliver a communications plan including public information and awareness raising activities to encourage mitigation, energy efficiency and adaptation actions in the commercial, business, and domestic sectors.	Ongoing - Communications and Stakeholder Engagement Strategy implemented. It is also noted that a communication step is often embedded into most projects.
The Council - must align its policies, plans and funding to support the Climate and Nature Emergency through all of its service delivery and back-office functions.	Not sufficiently evidenced – There is no specific evidence related to this recommendation in the Year 4 Action Plan. It may be possible that the delay to the Environmental Policy which would have the potential to cut across all Council policies, plans and delivery may have impacted this.
Finance - Work with the Climate Emergency team to establish an annual carbon budget for departments alongside the conventional budget. Develop the capacity to assess the climate risk associated with capital and revenue decisions and allocations.	Ongoing – All projects have a budget allocated within the Year 4 Action Plan.
Collaboration with neighbouring authorities, WECA and other agencies - Enhance collaborative action and share good practices with neighbouring single tier authorities and the combined authority to share costs and to drive forward mitigation and adaptation actions.	Ongoing – It is noted that many projects have collaboration embedded in its delivery. This is encouraging and should continue to be a core recommendation as without these regional collaborative activities many of the projects will not progress.
Lobbying central government - Engage with central government departments to promote South Gloucestershire as a location for pilot and	Not sufficiently evidenced – There is no specific evidence related to this recommendation in the Year 4 Action Plan.

<p>demonstration projects for mitigation and adaptation action and for green job providing enterprises.</p>	
<p>Procurement - Embed Climate and Nature Emergency issues into procurement processes. Use procurement processes to request, and require where appropriate, supplier emissions data and mitigation action plans so as to understand the Scope 3 emissions of the council and to develop carbon accounting procedures to track such emissions.</p>	<p>Ongoing – It is noted that a procurement strategy cuts across many of the actions in the Year 4 Action Plan.</p>
<p>Land use planning</p> <ul style="list-style-type: none"> • Planning and transport policies and strategies need to be re-engineered to place mitigation and adaptation at the heart of the decision-making process. Business as usual is no longer an option. • Planning land use policies must favour new renewable energy developments – wind, solar and small-scale hydro. • Ensure that the local plan embeds mitigation and adaptation as its guiding principles and land allocation proposals reflect the known and potential climate risks over the period to 2080. • Work with WECA to ensure that the Spatial Strategy integrates mitigation and adaptation into the final plan. • Identify suitable land for renewable energy development, wind and solar informed by the RERAS. • Review the council’s suite of supplementary planning documents to ensure they are aligned with adaption, resilience, and mitigation of a changing climate. • Ensure that Biodiversity Net Gain requirements, Nature Recovery Networks and Green and Blue Infrastructure priorities and opportunities are considered at the heart of local plan place making, development and decision- making. 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there are multiple projects implemented and in development that relate to this in the Year 4 Action Plan. It is not clear if all recommendations have been adopted.</p>
<p>Transport, strategic infrastructure, and highways</p> <ul style="list-style-type: none"> • Work with WECA to ensure that the Transport Strategy integrates mitigation and adaptation into the final plan including implementation of Biodiversity Net Gain. • Identify the risks and associated costs of high temperatures regarding risk of melting and combustion points of materials used for existing and new infrastructure. 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there are multiple projects implemented and in development that relate to this in the Year 4 Action Plan. It is not clear if all recommendations have been adopted.</p>

<ul style="list-style-type: none"> • Planning and transport policies and strategies need to be re-engineered to place mitigation and adaptation at the heart of the decision-making process. Business as usual is no longer an option. • Highways policies must promote active travel and support the rapid development of charging infrastructure. • Ensure that Biodiversity Net Gain requirements, Nature Recovery Networks and Green and Blue Infrastructure priorities and opportunities are considered at the heart of Transport, strategic infrastructure and highways plans and decision-making. • Workplace parking levy and public car park charging hypothecating revenue for climate and energy projects. 	
<p>Net zero building policy</p> <ul style="list-style-type: none"> • The council should work jointly with the other West of England authorities to produce a set of local planning policies that are aligned, and ensure that all new development, both residential and non-residential, follow the principles of the energy hierarchy and minimises energy demand through fabric energy efficiency measures and then meets all residual energy demand through renewable energy technologies. • No use of on-site fossil fuel should be permitted in new developments, and on-site renewable energy generation should be maximised, at least matching the residual energy demand on site. • Achieving energy neutral (or even energy positive) development would mean that all new development would be net zero carbon (in terms of operational carbon emissions). • Policies should also require embodied carbon emissions to be minimised where possible, and set targets for this to be achieved, ideally aiming for net zero embodied carbon by 2030. 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there are multiple projects implemented and in development that relate to this in the Year 4 Action Plan. It is not clear if all recommendations have been adopted.</p>
<p>Education and children’s services</p> <ul style="list-style-type: none"> • Climate awareness and action opportunities for schools. • Emission mitigation from the school estate. • Adaptation of the school estate. • Offer Climate and Nature Emergency training to teachers 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there are multiple projects implemented and in development that relate to this in the Year 4 Action Plan (e.g. Schools Carbon and Climate Workshops). It is not clear if all recommendations have been adopted. Please see recommendation for the next Action Plan related</p>

<ul style="list-style-type: none"> • Consider how the development of skills and capabilities for the green economy can be infused across the formal and informal curriculum. • Note the vulnerability of young people to rising temperatures, how is shade and ventilation to be provided across the school estate? • Address the rising prevalence of ‘eco anxiety’-linked mental health conditions, particularly among young people, and the evidenced benefits of engagement and agency in positive action opportunities. 	<p>to new DfE initiative around Climate Action Plans in education settings.</p>
<p>Adult social care</p> <ul style="list-style-type: none"> • Climate risk assessment of commissioning activities. • Offer Climate and Nature Emergency training to care home staff. • Develop an understanding of the suitability of care homes and other settings to address rising average temperatures, noting the enhanced vulnerability of the elderly to heat stress. • Prepare plans to respond to the anticipated increased numbers of displaced people (locally, nationally, and globally) due to the changing climate and weather events including increased demand for emergency accommodation. 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there is a specific project implemented that relates to this in the Year 4 Action Plan (e.g. Care Homes Research). It is not clear if all recommendations have been adopted.</p>
<p>Public health - Climate risk assessment, plan development and implementation.</p> <ul style="list-style-type: none"> • How will a possible 4°C rise in the global average temperature affect South Gloucestershire? • What risks will become manifest across the decades to 2100? • Who is the most affected by temperature rises and when? • Identify fire risks. • What additional risks become real with increased storm activity and high rainfall intensity? • Who and where will be affected by fluvial and pluvial flooding? • How are these risks communicated and mitigated? • Turn awareness into proactive engagement to reduce risk. 	<p>Not sufficiently evidenced – There is no specific evidence related to this recommendation in the Year 4 Action Plan although the “Delivering prevention measures – health and climate” does work towards some of these suggestions. This is an important recommendation to future proof the Council’s work and provide an assessment of risk that can be used for communication strategies and policy development. .</p>
<p>Emergency planning - Develop understanding of the scale of projected impacts and develop emergency</p>	

<p>response plans for identified risks including flooding, heat, and fire.</p>	
<p>The Council Estate</p> <ul style="list-style-type: none"> • Enhance mitigation efforts through energy efficiency measures. • Accelerate fleet conversion to non-fossil fuels. • Move to renewable energy supply. • Develop further renewable energy supply sources. • Increase adaptation measures including green/blue infrastructure to increase cooling, shading and flood/drought resilience. • Adapt the estate as a demonstrator thereby encouraging confidence within the supply chain. 	<p>Ongoing – There are multiple recommendations within this category. It is notable that there is a specific project implemented that relates to this in the Year 4 Action Plan (e.g. Care Homes Research). It is not clear if all recommendations have been adopted.</p>
<p>Staff - In order to deliver these actions and achieve council ambitions and commitments across service areas, more staff resource is urgently needed. By having the capacity in place now to progress these actions the council can reduce the costs of impacts from the changing climate locally and be better placed to proactively draw in external funding through bids and new green investment mechanisms.</p>	<p>Ongoing – Staff recruitment evidenced for some projects. Where staff shortages were noted is where projects were rated Red.</p>
<p>Avon Pension Fund - Pension contributions will contribute to the Scope 3 emissions of the council, engage with pension providers to advance decarbonisation of the portfolio. Ensure pension trustees are properly trained in Climate and Nature Emergency issues and enabled to challenge investment decisions.</p>	<p>Ongoing - The discussion is ongoing, with the new administration seeking reassurance from the pension providers regarding investment decisions. Awaiting new Council Plan to finalise Environmental Policy.</p>

Table 5: Recommendations for consideration in future Action Plans

Issue to be addressed	Recommended Action
<p>Addressing the ambition gap – emissions v renewables</p>	<p>There is a notable alignment between the rate of emissions reductions and the slow growth of renewable energy capacity. Efforts need to be targeted to urgently address this ambition gap by scaling up action and bringing pipeline projects to fruition.</p>
<p>The Future is Local</p>	<p>The recent Local Mission Zero Network Report (2023)¹⁰ concluded that local delivery of net-zero is of paramount importance. The report provides examples of local best practice, demonstrates how local authorities are reaping rewards and investigates where there remain significant problems in the pace and scale of net zero delivery locally. It is recommended that the Council review the findings of this report and reflect against their own actions and experience to explore where local improvements in process</p>

¹⁰ https://www.uk100.org/sites/default/files/publications/PPP-Mission-Zero-Network-Report_923-Web.pdf

	and/or actions can be implemented. Additionally, the Council should keep a watching brief on any initiative that fall out of the Local Big Bang Mission.
Education Settings	<p>As part of the national ambitions of the UK Department for Education Sustainability and Climate Change Strategy, the Department for Education is launching an initiative in early 2024 for all education settings¹¹ in England to develop a Climate Action Plan. This will include a Digital Support Hub where education settings can self-assess their progress, training on key aspect of climate action and one-to-one support where necessary. The Climate Action Plan will focus on four themes:</p> <ul style="list-style-type: none"> • Decarbonisation and energy efficiency • Climate adaptation and resilience • Biodiversity and green infrastructure • Climate education / Green Skills / Careers <p>The Council should take a proactive role in encouraging settings to engage in this initiative and by aligning the Climate Action Plans with the Council’s ambitions, there may be opportunities to accelerate the carbon reductions in this sector and gain quicker traction towards the 2030 targets.</p>
Evaluation of the impact of national policy announcements	The recent changes in national government policies related to net-zero may have a profound effect on the local action plan. Once these national policies have been evidenced (and assessed by the CCC) it would be beneficial for the Council to undertake an impact assessment of these policy shifts on their pathway to net-zero.
Additional focus on Adaption & Resilience and co-benefits with Green Infrastructure & Nature Recovery	Themed projects related to ‘Adaptation & Resilience’ and ‘Green Infrastructure & Nature Recovery’ are a critical part of the Action Plan and are designed to provide enhanced protection for South Gloucestershire’s citizens, infrastructure (social and physical), and the natural environment. In the light of 2022 and 2023 extreme weather events and the risk to public health, infrastructure and ecosystems, adaption and GI activities need increased attention and support. The current Amber and Red projects under these themes will need careful attention.
Research opportunities	UKRI has recently changed some of its funding mechanisms to favour larger ‘place-based hub’ calls around subjects related to the climate and ecological emergency (e.g. Local Policy Innovation Partnerships, Accelerating Green Economies etc). Additionally, UK association with Horizon Europe has reopened. This represents a substantial opportunity for the Council to embed some of its projects into research initiatives and/or for research activities to accelerate Council actions. Also, changes to the Innovate UK KTP ¹² schemes mean that Councils may also be able to work with Universities to apply for KTP Associates. However, for the Council to take advantage of these opportunities it needs to develop an offer to market the area to Universities so that they look beyond the traditional larger city case studies and the Council needs to be quick to react to opportunities when they arise.
Lobbying central government (retained recommendation)	Engage with central government departments to promote South Gloucestershire as a location for pilot and demonstration projects for mitigation and adaptation action and for green job providing enterprises.
Public health - Climate risk assessment, plan	<ul style="list-style-type: none"> • How will a possible 4°C rise in the global average temperature affect South Gloucestershire?

¹¹ Education settings include early years, primary, secondary and future/higher education settings.

¹² <https://www.ukri.org/councils/innovate-uk/guidance-for-applicants/guidance-for-specific-funds/knowledge-transfer-partnership-guidance/>

<p>development and implementation. (retained recommendation)</p>	<ul style="list-style-type: none"> • What risks will become manifest across the decades to 2100? • Who is the most affected by temperature rises and when? • Identify fire risks. • What additional risks become real with increased storm activity and high rainfall intensity? • Who and where will be affected by fluvial and pluvial flooding? • How are these risks communicated and mitigated? • Turn awareness into proactive engagement to reduce risk.
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Updated Strategic Context Summary Assessment at End of Year 4 Action Plan

Strategic Context Analysis Using PESTLE (Political, Environmental, Social, Technical, Legal, Economic)

- **Political.** Good political support continues at the Council level. Similar 2030 targets held by each unitary authority in the WECA/LEP area. South Gloucestershire’s target is more ambitious than the UK target of 2050. The interim UK target of a 78% reduction by 2035 will provide additional incentives for action that will support SGC’s net zero goal. Recent political rhetoric may make the pathway to net-zero more challenging.
- **Environmental.** Emissions are falling but not at the rate needed to meet the UK carbon targets. Adverse weather conditions (rainfall, storm condition, extreme temperatures) are becoming more common with significant public health costs, damage to infrastructure and insurance costs.
- **Social.** Public concern about climate change is growing with the younger demographic particularly concerned and a notable increase in eco-anxiety identified. The impacts of a changing climate are not equally distributed with the elderly, the poor, and the young most at risk from adverse weather conditions. Rising energy prices and broader cost of living crisis provide a further challenge to those in society already vulnerable or financially insecure reducing opportunities for decarbonising or adapting their home. The richest 1% in society emit significantly more carbon per year than the poorest 10% in society.
- **Technical.** The technical understanding of the options for mitigation and adaptation are robust and the technologies are available to make significant cuts to emissions and to adapt buildings and infrastructure. But techno-centric solutions will not enough – technology needs to be married to shifts in social practices and behaviours.
- **Legal.** The UK Climate Change Act 2008 and the 2019 amendment set out the legal underpinning of the UK’s action on climate change. The Net Zero Strategy and the Heat and Building Strategy provide a new emphasis for climate action. The DfE Sustainability and Climate Change Strategy provide an important opportunity for action in a key Council sector.
- **Economic.** The costs of mitigation and adaptation need to be considered in the light of the recurring health costs and the infrastructure damage costs. The Stern Review on the Economics of Climate Change¹³, released in 2006, demonstrated that the benefits of early action on climate change far outweigh the costs of not acting. The co benefits of action include significant job creation to adapt buildings and protect infrastructure. These benefits remain significant when compared to the ever-increasing costs of inaction associated with extreme weather events impacting on public health, infrastructure, and ecosystems.

¹³ https://webarchive.nationalarchives.gov.uk/ukgwa/20100407172811/https://www.hm-treasury.gov.uk/stern_review_report.htm

Conclusions – The Future is Local

Climate Emergency UK recently published its Council Climate Action Scorecards for 2023¹⁴. The methodology assesses all UK Councils across seven different themes. South Gloucestershire scored above the UK average of 32% with a total score of 46% and is ranked 36th in the UK. While progress is being made – this is still much more to do.

The Year 4 Action Plan Progress Tracker Spreadsheet provides a detailed report of actions undertaken by the Council to develop and implement climate action across seven broad themes of activity. The portfolio contains 78 projects, 44 of which are classified as on track (green); 27 projects are classified as amber, signifying minor slippage and some concerns about delivery; seven projects have no progress and present major concerns. For a complex portfolio of diverse activity this is an impressive position to have achieved especially as the red projects have easily implemented solutions to move them up the RAG rating.

Plan 2030 estimated that South Gloucestershire as an area will, on current estimates and assuming successful implementation of the UK Net Zero Strategy, have a residual CO₂ emission of some 5-600 kt in 2030. Given recent national announcements, this residual emissions may be an underestimation and therefore the Year 5 and subsequent action plans should focus efforts on actions that will address this residual emission.

Extreme climate and weather events in 2022 and again in 2023 have shown how vulnerable public health, nature and infrastructure are to a changing climate. Adaptation to a changing climate and the risks to social and physical infrastructure is becoming ever more important and needs to be an increasingly large and visible part of the Council’s Action Plan for Year 5 onwards. Nature recovery can and will play an important role in protecting from flooding, providing shading from extreme heat, and enhancing public wellbeing. The continued integration of actions promoting climate mitigation and or adaptation with nature recovery are encouraged.

South Gloucestershire Council needs continue to build on its Climate and Nature Emergency work and plans by increasing capacity to embed the actions within routine Council activities and to extend this to all stakeholder engagements and other forms of communication. If it is willing to fully exercise these capabilities and to effectively integrate climate mitigation, adaptation, and nature recovery into all aspects of its core business then South Gloucestershire Council has the opportunity to become a UK leader in its integrated, systematic, and strategic response to the Climate and Nature Emergency. **The future is local!**

Table 6: Progress with Meeting the Climate Strategy Aims at the end of Year 4

Aims of the Climate Emergency Strategy	Progress Assessment at the end of Year 4
For South Gloucestershire to become carbon neutral by 2030.	The Year 4 action plan builds on the impressive work undertaken in Years 1-3 and continues to provide a firm foundation for future action. These early years have provided the framework for action and have begun the implementation of a substantial number of actions to address mitigation of emissions. The Year 3 portfolio of actions reports considerable efforts in mitigation of emissions but on present evidence a residual carbon dioxide emission of some 5-

¹⁴ <https://councilclimatescorecards.uk/#jump=south-gloucestershire-council>

	600 kt is likely in 2030 (this may be an underestimation). The majority of this emission will be associated with the domestic, commercial, and industrial use of gas. Further efforts are required to enhance energy efficiency in these sectors and to change fuel use.
To maximise the generation of renewable energy from installations located within South Gloucestershire.	An estimated annual total of 257 Gigawatt (GWh) hours of energy was generated from renewable sources within South Gloucestershire in 2022. There is slow progress at present in the installation of large-scale renewable energy with South Gloucestershire, there is a significant amount of Solar PV and battery storage capacity currently in the planning system – 504 MW and 1,122 MW respectively. These projects must complete their journey through the planning system as soon as possible.
For South Gloucestershire to be prepared for the local impacts of the Climate Emergency.	The recently climate events have shown that substantial work is still needed to implement effective adaptation measures to protect from extreme heat events, flooding, and other impacts of a changing climate.
For nature in our local area to be more protected, connected, and healthy and biodiversity increased	Nature recovery is a substantial part of the Year 4 Action Plan and the co-beneficial services need to be maximised through a wide range of climate mitigation and adaptation alongside a wide range of health and wellbeing benefits.

Appendix A: Historical Action Plan Reviews and Recommendations

Table 7: Assessment of actions against the recommendations made in the review of the Year 1 Action Plan

Year 1 recommendations going into Year 2	Assessment
Mitigation of Scope 1 and 2 emissions	Good progress across the portfolio.
Further consideration of Scope 3 emissions both Council and District wide.	Limited progress across the portfolio.
Emissions from the consumption of goods and services need to be considered and projects to inspire others to undertake action directed at reducing the embedded carbon in such purchases. The possibility of using GDP to undertake this task should be assessed. LSP members should be encouraged to undertake Scope 3 assessments.	Limited progress across the portfolio
Integration of climate considerations into routine council business	Adoption of the Cornwall Decision Wheel and implementation of Plan 2030 recommendations will enhance compliance with this recommendation.
Action to enhance co benefits of ecological recovery and climate action.	Included as a co-benefit in numerous projects across the portfolio.
Training of staff within the Council and LSP member organisations.	Progress noted but further action needed.
Further development of a Communications Strategy	Good progress with creating and implementing communication campaigns.
Acceleration of adaptation consideration and moving to implementation actions	Adaptation has a greater focus in the year 3 plan, but more effort is required to achieve satisfactory levels of awareness of the requirement for adaptation.
Exploration of collaboration opportunities with WECA and local councils to identify early implementation opportunities and possible economies of scale for shared actions.	Progress reported but further opportunities for collaboration and joint working exist.
A greater emphasis in year 2 on community engagement and actions for citizens is desirable and this could link to a local citizen's assembly and /or local COP 26 activity.	Good progress reported.
Offsetting or carbon compensation/ Carbon balancing requires further consideration exploring both the potential and the timing of when such actions should be undertaken. This would be both a direct action for the council and an Inspire activity. Consideration should be given to promoting a WECA wide project with a managed fund established from the proceeds of offsetting and dedicated to reinvestment in verifiable offsetting or carbon management / adaptation projects.	Now a central part of considerations in the Green Infrastructure and Nature Recovery theme.
Consideration should be given to insetting opportunities on council owned land and	Consideration included in Green Infrastructure and Nature Recovery theme.

opportunities for offsetting on the agricultural land within the district, estimated to be 64% of the area.	
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Table 8: Assessment of actions against the recommendations made in the review of the Year 2 Action Plan

Year 2 recommendations going into Year 3	Assessment
Simplification of the portfolio separating plans into mitigation, adaptation, and nature recovery headings.	This recommendation has been fully implemented.
Prioritise actions within the portfolio for each Theme	Prioritisation is not yet part of the Action Plan. It remains unclear which actions are the most or least important in terms of achieving the mitigation, adaptation or nature recovery aims.
Provide a timescale for implementation.	Projects do not have a timescale to completion identified.
Provide a timescale of impact - short/medium /long term.	As above, the timescale to achieve the desired impact is not specified. Whilst some projects are likely to continue until 2030 others are likely to have much shorter timescales.
Consider collaborative opportunities with Unitary Authorities and opportunity for WECA to co-finance or remove barriers to implementation.	This element of the portfolio feature in the cross-cutting projects, for example in skills and training and funding opportunities, e.g., Woodland Creator Accelerator Fund, and WECA Pollinator Fund. It also features in the Carbon Assessment Tool project where the tool will be used to help guide WECA investment decisions and the Spatial Development Strategy
Review the role of LSP and seek opportunities to engage LSP members more fully in adaptation and mitigation.	The LSP remains an important mechanism to energise and support major employers and agencies within South Gloucestershire on their decarbonisation, adaptation, and nature recovery journey. It is not clear that the development of an LSP subgroup concerned with the climate emergency has provided the impetus to collective action first envisaged. Further consideration should be given to how the latent potential of the LSP can be realised.
Consider further support for SME decarbonisation including encouragement to participate in Business West's Climate Action initiative.	Useful review of actions to support Business engagement including successful Business Show with a strong climate focus running through it. Training and other support for businesses via communication campaigns clearly evident in the portfolio. It would be helpful to have more details of numbers engaged and feedback on changes within the business as a result of the interventions.
Enhance consideration of mitigation measures, including likely carbon saving from identified	The carbon savings anticipated from the actions are not clearly identified (see also

schemes, including battery storage, DHNs and within area renewable energy generation.	priority and impact comments above). Greater clarity on this metric would enable an assessment of the gap to be closed and the suitability of the portfolio of projects to achieve the net zero goal.
Enhance consideration of adaptation measures within the Action Plan portfolio.	The portfolio of projects contains 9 projects addressing this theme, 3 of which are in the develop category. A large number of other projects are listed as contributing to the adaptation category although the extent of such impact is not clear.
Further develop and extend the staff training opportunity within the Council.	This recommendation has been embraced and further details of training are now included in the action plan.
Examine the staff training offer within LSP member organisations and offer, again, the training offer.	This has been included in the actions reported in the Year 3 action plan.
Further action to integrate climate consideration within routine council decision making such as the use of the Cornwall Decision Wheel.	The Cornwall Decision Wheel has been trialled in the authority and has been adopted for use from April 2023.