



South Gloucestershire Council Climate Emergency Declaration

Review of Year Two of the Climate Emergency Action Plan

South Gloucestershire Council Climate Emergency

University Advisory Group

UWE Bristol

November 2021



South Gloucestershire Council

Review of Year 2 of the Climate Emergency Action Plan.

The Role of UWE

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 the Year 2 Climate Emergency Action Plan.
- Provided advice and support of the Local Strategic Partnership's Joint Programme of Activity in 2021.
- Provided speakers for the South Gloucestershire Business Show in October 2021
- Provided a technical review of the outcomes of the Year 2 Action Plan
- Advised on the key issues to include in the Year 3 Action Plan
- Provided academic guidance for a Work Based Learning student placement in the Climate Emergency team.

The review has considered the Year 2 actions and proposed Year 3 actions in the context of

- The discussions and decisions at [COP26](#)
- [The UN Climate Science Summary](#)
- [The IPCC 6th Assessment Report](#)
- [The UK's Net Zero Strategy](#)
- [The UK's Heat and Building Strategy](#)
- [Climate Change Committee's Sixth Carbon Budget](#)
- Climate Change Committee's [Local Authorities and the Sixth Carbon Budget](#)
- Climate Change Committee's [Report to Parliament on progress in adapting to Climate Change](#)
- Climate Change Committee's [Report to Parliament on progress in reducing emissions](#)
- Climate Change Committee's [Independent Assessment: The UK's Net Zero Strategy](#)
- [UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2019](#)
- [Climate Emergency UK's Local Authority Climate Plan Checklist](#)

The International Context for Action

As COP commenced the concentration of carbon dioxide, CO₂, in the atmosphere approached 414 parts per million, some 149% of the pre-industrial level and the global average temperature had warmed to 1.1 degrees centigrade above the pre-industrial value. Despite our increasing knowledge and ever more urgent warnings about the damage caused by climate warming gases the nations of the world have released more CO₂ in the last 30 years than in all of the decades from the start of the industrial revolution until 1990.

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 report called for action by 2030 to contain global heating to only 1.5 degrees centigrade. At that time, we had 12 years to meet that goal, now we have just 8! South Gloucestershire's Climate Emergency declaration recognised the timescale set by the IPCC. Initial assessment of the commitments made at COP26 suggests that these may be sufficient to hold the global temperature increase to just under 2 degrees centigrade. However, these commitments must be realised for this to happen.

Under the Paris Agreement of 2015, countries committed to develop national plans setting out how much they would reduce their emissions to restrain warming to less than 2 and ideally 1.5 degrees centigrade. These plans are known as Nationally Determined Contributions, or 'NDCs.' COP26 is the first opportunity where nations present their updated plans for reducing emissions and review progress on reaching net zero by 2050. In addition, nations are also required to produce a reduction target for 2030. To keep warming to just 1.5 degrees centigrade means phasing out fossil fuel use as quickly as possible, accelerating the switch to renewables, protecting forests and other natural carbon sinks, and incentivising a rapid switch to electric vehicles.

To have any hope of restraining the rise in temperature requires a very rapid and sustained reduction in global emissions. Some 80% of global emissions come from the G20 group of nations and the same group are responsible for a large share of the historic emissions. The developed countries at COP need to agree the mechanisms that will mobilise the promised \$100bn in climate finance per year for low- and middle-income countries and to incentivise the private sector to mobilise further resources. These financial resources will be desperately needed by countries affected by climate change who will need to build defences, restore, and protect ecosystems, protect agricultural land, and install warning systems to protect lives and homes. To prevent warming beyond 1.5 degrees centigrade the UN reports that nations need to reduce emissions by at least 7.6% every year from this year to 2030. Deep reductions in methane emissions also will be necessary to help limit global warming. The World Meteorological Organisation (WMO) reports that in the decade ending in 2019 the world had experienced a period of exceptional global heat, retreating ice and record sea levels driven by greenhouse gases produced by human activities, noting that the average temperatures for the five-year (2015-2019) and ten-year (2010-2019) periods are the highest on record. We are already seeing the impacts of a 1.1-degree temperature increase. Extreme weather events such as heatwaves, droughts, flooding, winter storms, hurricanes and wildfires have increased in frequency and magnitude. These events will become more frequent even if global warming is restrained to 1.5 or 2 degrees centigrade. It will be much, much worse if average temperatures increased beyond these values.

Sources

WMO Greenhouse Gas Bulletin (GHG Bulletin) - No.17: The State of Greenhouse Gases in the Atmosphere Based on Global Observations through 2020. World Meteorological Organisation. https://library.wmo.int/index.php?lvl=notice_display&id=21975#.YXaUuI5KjIV

The Heat is On. Emissions Gap Summary 2021.

https://wedocs.unep.org/bitstream/handle/20.500.11822/37001/EGR21_HOEN.pdf

UK COP 26 website. <https://ukcop26.org/>

UN Emissions Gap Report 2021. <https://www.unep.org/resources/emissions-gap-report-2021>

The National and Local Context

- Urgent action is needed to meet the UK commitment to achieve net zero by 2050.
- Equally urgent action is required across South Gloucestershire, including the Council itself, to meet the Climate Emergency declaration of net zero by 2030.
- Adaptation measures and resilience in the face of a changing climate requires enhanced attention.
- Scope 3 emissions require further attention in the discussions and actions of key employers across South Gloucestershire.

The most recent UK government data for [local authority carbon dioxide emissions](#) covers the year 2019.

This only covers territorial emissions from within South Gloucestershire and thus ignores wider supply chain and consumption-based emissions. In this report South Gloucestershire emissions are estimated at 1,660,1 kilo tonnes of CO₂. This equates to a per capita average emission 5.8t CO₂ per person.

The largest source of emissions is the transport sector with the largest contribution coming from motorways. The domestic sector is the second largest category, followed by industry, commerce, and public services. Agriculture is a modest carbon sink.

Large industrial sources and motorway emissions and diesel railways are outside of local authority control and when these are removed the controllable emission is assumed to be 1,137.4 kilo tonnes and a per capita average emissions 4.0 t CO₂.

The challenge for the authority is twofold.

- 1) Achieving net zero across the area by 2030 requires mitigating some 1.1 million tonnes of CO₂ in the next 8 years.
- 2) Building climate resilience in the face of the changes already locked into the climate system by virtue of historic emissions of climatically active gases.

How then is the Climate Emergency Action Plan addressing the required actions?

The detailed 21-page Action Plan provides a portfolio of projects covering three categories of action

- Lead in the Council’s own operations.
- Enable a low carbon South Gloucestershire with SGC’s programmes, policies, and decisions.
- Inspire business and residents to take climate action themselves.

Projects in each category are defined as follows:

- Prepare. Project planning, this can include data gathering, research and consultation, business case development.
- Develop. Project development, this includes putting in place processes and systems, setting up governance structures, securing resources.
- Implement. Project delivery, outputs produced, putting in place measures or carrying out actions that deliver the aims.

Actions are categorised according to 7 broad themes

- Cross Cutting
- Buildings/Built Development
- Transport (& infrastructure /Highways)
- Renewable Energy
- Resources and Waste
- Adaptation and Resilience.

The number of projects varies between each theme. The state of project development differs between and within themes as does the balance between Lead, Enable, and Inspire.

Theme	Lead	Enable	Inspire
Cross Cutting,	9	6	4
Buildings/Built Development	6	2	3
Transport (& infrastructure /Highways)	6	7	2
Renewable Energy	2	2	0
Green Infrastructure and Nature Recovery,	9	9	6
Resources and Waste	2	0	0
Adaptation and Resilience	6	2	2

Theme	Prepare	Develop*	Implement
Cross Cutting,	0	3	16
Buildings/Built Development	0	5	6
Transport (& infrastructure /Highways)	0	5	9
Renewable Energy	0	2	2
Green Infrastructure and Nature Recovery,	0	13	11
Resources and Waste	0	0	2
Adaptation and Resilience	1	3	6

*Note. Where two stages of project are listed, e.g., Develop/Implement, the lower category of readiness has been recorded.

Theme	Green	Amber	Red
Cross Cutting,	15	3	0
Buildings/Built Development	6	5	0
Transport (& infrastructure /Highways)	7	7	0
Renewable Energy	3	0	1
Green Infrastructure and Nature Recovery,	14	10	0
Resources and Waste	2	0	0
Adaptation and Resilience	5	5	0

The Year 2 Action Plan contains a portfolio of projects not all of which have an assigned budget.

There is one red project in the portfolio. This is a Renewable Energy theme project in its second year and is described as Implement. It is located within the Lead category. The aim of the project is to develop Council-led renewable energy projects but has stalled due to lack of investment for the developments and lack of progress in taking the sites identified forward for development. Urgent attention should be given to rectifying this planned action as renewable energy projects can be an important part of the Council's mitigation effort.

Most projects listed in the Action Plan are identified as Green in the RAG assessment and thus are progressing. However, commentary 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 goal.

Thirty of the planned 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 the vast majority of cases although two projects in the Green infrastructure and Nature Recovery theme have no commentary to explain the Amber categorisation. It is noticeable that a substantial number of projects in this theme, categorised as Amber fall with the Lead category. Nature recovery is a vital component of the Action Plan and green infrastructure has a significant role to play in mediating the extreme weather and flood impacts of a changing climate. Attention should be given to resolving this position at the earliest opportunity.

Amber projects in the Buildings theme will benefit from the greater focus on domestic and commercial whole structure decarbonisation signalled in the governments recently released Heat and Buildings Strategy (<https://www.gov.uk/government/publications/heat-and-buildings-strategy>). The recent publication of the Department for Education's draft Sustainability Strategy (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031454/SCC_DRAFT_Strategy.pdf) and the Gen Zero concept school may provide a further stimulus for the planned PassivHaus school developments.

Many of the actions required to reach the 2030 goal require the support and active engagement of enterprises within and beyond the Local Enterprise Partnership (LSP). Further thought should be given as to how to activate the latent potential of the LSP to implement rapid and effective decarbonisation and adaptation action. The Climate Action initiatives of the Business West (<https://www.businesswest.co.uk/ttnz-category/climate-action>) may be a model that can activate further change in this regard.

A small number of the Amber Transport projects are delayed whilst consents are secured, and funding brought forward through Section 106 agreements.

Adaptation and Resilience theme projects are a critical part of the Action Plan and are designed to provide enhanced protection for South Gloucestershire's citizens, infrastructure, and the natural environment. It is concerning that that Covid and budget considerations have delayed elements of this important theme, particularly in relation to engagement work with services designed to better understand operational implications of a changing climate.

In the Technical Review of the Year 1 Action Plan the University identified a number of recommendations for inclusion in the Year 2 Action Plan as follows

Year 2 Recommendation	RAG Review of Action
Mitigation of Scope 1 and 2 emissions	Green, good progress across the portfolio.
Further consideration of Scope 3 emissions both Council and District wide.	Red, 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.	Red, limited progress across the portfolio
Integration of climate considerations into routine council business	Amber, some progress but further action needed.
Action to enhance co benefits of ecological recovery and climate action.	Green, included in Green Infrastructure and Nature Recovery theme.
Training of staff within the Council and LSP member organisations.	Amber, some progress but further action needed.
Further development of a Communications Strategy	Green, Communications Toolkit funded by LGA grant tested and ready for implementation.
Acceleration of adaptation consideration and moving to implementation actions	Amber, some progress but further action needed.
Exploration of collaboration opportunities with WECA and local councils to identify early implementation opportunities and possible economies of scale for shared actions.	Amber, some progress but further action needed.
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.	Amber, some progress but further action needed.
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.	Green, included in Green Infrastructure and Nature Recovery theme.
Consideration should be given to insetting opportunities on council owned land and opportunities for offsetting on the agricultural land within the district, estimated to be 64% of the area.	Green, included in Green Infrastructure and Nature Recovery theme.

Commentary

- At the end of Year 2 the Council's Climate Emergency Action Plan contains a detailed portfolio of planned projects. The majority are progressing as planned, which in the context of Covid-19 is admirable, others though are off track for a variety of reasons.
- Emissions within SGC's scope of control are associated with transport, the commercial, industrial, domestic, and public sector. Mitigation actions should be focused on supporting decarbonisation within each of these sectors. Ramping up of current initiatives such as EV charging, promotion of active travel, domestic retrofit as well as clarity of communications to enable easier access to advice, guidance and services will be required.
- The LSP are co-owners of the Action Plan and I expected to see more evidence of LSP action on net zero and adaptation. The Communications Toolkit developed with the LGA grant may enable further engagement by LSP members. Perhaps LSP members can be enabled or inspired to a new commitment for shared action? Area wide action is needed and LSP members have reach and impact across the SGC area. LSP members can reinforce messaging about the importance of preparing and adapting to extreme weather events in the future. Are there opportunities in the CSR initiatives of LSP members that can provide levers for change?
- In order to do this consideration should be given to developing the use of the Cornwall Decision Making Wheel so that users can better understand the climate and wider contexts of decision making.
- Small and medium sized enterprises not part of the LSP could be encouraged to engage with Business West's Climate Action initiatives. Could SGC develop a carbon emissions tool suitable for use by SMEs?
- Further work is required to accelerate renewable energy generation within SGC and to encourage consumers in the domestic and commercial sectors to switch to a guaranteed renewable tariff. Whilst this will have significant longer term benefits the short-term impacts are acknowledged.
- Further consideration should be given to the role of battery storage with the area alongside opportunities for the construction of district heat networks (DHN) at sites such as the Arena, Brabazon, and the Science Park and to connect UWE's existing DHN to the surrounding area.
- Opportunities for regional cooperation with neighbouring Unitary Authorities and the West of England Combined Authority should be explored. The Western Gateway initiative provides a further opportunity for South Gloucestershire Council to exercise its leadership in promoting decarbonisation and adaptation measures.
- Nature Recovery and Green Infrastructure schemes provide important adaptation measures including shading, cooling, and air purification. The Council's intention to develop an asset bank of sites suitable for green and blue infrastructure is noted and encouraged.

Recommendations

- 1) Simplification of the portfolio separating plans into mitigation, adaptation, and nature recovery headings.
- 2) Prioritise actions within the portfolio for each Theme
- 3) Provide a timescale for implementation.
- 4) Provide a timescale of impact - short/medium /long term.
- 5) Consider collaborative opportunities with Unitary Authorities and opportunity for WECA to co-finance or remove barriers too implementation.
- 6) Review the role of LSP and seek opportunities to engage LSP members more fully in adaptation and mitigation.
- 7) Consider further support for SME decarbonisation including encouragement to participate in Business West's Climate Action initiative.
- 8) Enhance consideration of mitigation measures, including likely carbon saving from identified schemes, including battery storage, DHNs and within area renewable energy generation.
- 9) Enhance consideration of adaptation measures within the Action Plan portfolio.
- 10) Further develop and extend the staff training opportunity within the Council.
- 11) Examine the staff training offer within LSP member organisations and offer, again, the training offer.
- 12) Further action to integrate climate consideration within routine council decision making such as the use of the Cornwall Decision Wheel.

Appendix

Year 2 Action Plan Strategic Context Summary Assessment

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

- **Political.** Good political support 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.
- **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. 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 provide a further challenge to those in society already vulnerable or financially insecure reducing opportunities for decarbonising or adapting their home.
- **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.
- **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.
- **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 Change](#), 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.