

Annual Report on Year One

November 2020

Bristol Advisory Committee
on Climate Change

Background

Introduction

The Bristol Advisory Committee on Climate Change (BACCC) was created in Autumn 2019 as a key part of the city's climate emergency declaration and response to the climate emergency. Its primary purpose is to provide independent technical advice on reducing Bristol's greenhouse gas emissions and adapting the city to the impacts of climate change.

This report reviews the first year of BACCC's operation and key contributions. Our intention is that this report will support the One City Environment Board and other institutions in making continued progress towards Bristol's ambition to become a carbon neutral and climate resilient city by 2030.

Role of Committee

To act as an independent technical committee to advise the Bristol City Office, the six One City thematic boards, Bristol City Council and other stakeholders on mitigating greenhouse gas emissions and adapting to climate change **(See Appendix 1 for BACCC Terms of Reference)** .

Through its actions, the Committee will seek to accelerate Bristol City's progress to achieving net zero by 2030 and to adapt to climate change in an effective, efficient, inclusive, and just manner.

The Committee aims to become a trusted voice on climate change in Bristol.

BACCC recognises that the urgency of the climate emergency requires the Committee to work at pace.

Appointment of committee

Professor Jim Longhurst and Dr Jo House were appointed by Mayor Marvin Rees as independent chairs from each of the city's Universities and, working with Bristol Green Capital Partnership, they established the Committee through an open expressions of interest process in Autumn 2019.

The committee of 23 members, plus 2 co-chairs, brings together a diverse range of expertise and know-how to work collaboratively for change on a city-wide scale (See Appendix 2 for details of BACCC membership).

A register of experts has been set up to enable access to a wider range of specific expertise that can be drawn upon for specific technical issues.



Approach

Key facets of the committee's approach are:

- **Being embedded in the city structure.** Bristol's One City Approach brings together public, private, voluntary and third sector partners with a shared vision for a fair, healthy and sustainable city. Receiving an official invitation from the Mayor to co-create this Committee under the One City framework has helped to establish our role in this governance ecosystem and the committee has established links with all six One City thematic boards to discharge its technical advisory and support role.

- **Connecting with the Council.** The positive relationship with Bristol City Council has been crucial in understanding the local nature of the climate challenges and the realities faced locally in trying to address these, as well as how a just transition might be achieved.
- **Being transparent and maintaining impartiality.** The Bristol Advisory Committee on Climate Change's Terms of Reference specify that members cannot hold political office and must declare any interests. The committee aims to maintain a trusted and independent voice on climate change in Bristol.
- **Involving key players.** Bristol has a well-established environmental sustainability practitioner and academic community. Many members have previously been involved with Bristol Green Capital Partnership - an active network of 1,000 member organisations committed to tackling climate and ecological challenges in Bristol. A number of experts have also been invited to share perspectives with the committee to inform its work (See Appendix 3) .
- **Having regular meetings.** The urgency of the climate emergency requires us to work at pace and meeting on a monthly basis has enabled the committee to stay connected and able to respond to emerging developments.

Overview of activities to date

In its first year, the Bristol Advisory Committee in Climate Change was appointed and established its Terms of Reference for operating, formalised its expert working group structure. Drawing also on the register of experts, it has provided critical review, advice and challenge during the development and release of the evidence bases underpinning the One City Climate Strategy and on the One City Climate Strategy itself.

Subsequent activities have included: supporting the development of the One City Climate Strategy, providing support and advice to Bristol City Council on approaches to climate change communication and engagement and responding to several policy consultations. Upon the release of the national Committee on Climate Change's recommendations for a resilient COVID-19 recovery, the committee wrote to the Mayor of Bristol contextualizing these recommendations for Bristol and the region (See Appendix 4). These were subsequently incorporated into the city's [Economic Recovery Plan](#).

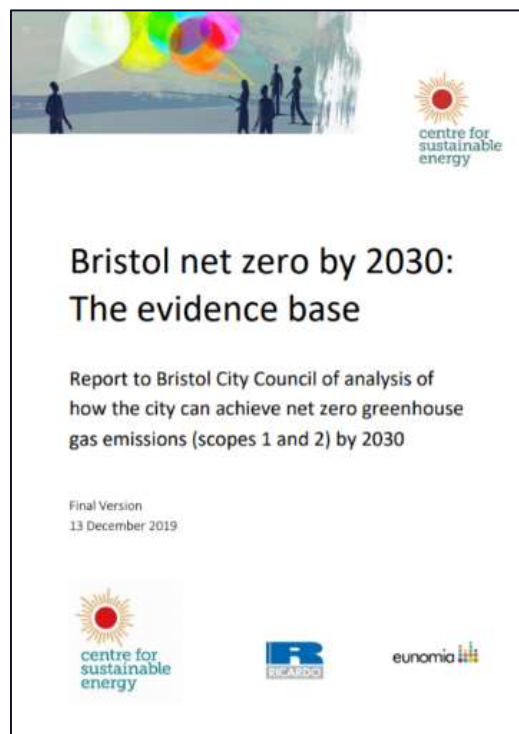
Committee analysis & recommendations

1: Bristol's 'Net Zero by 2030' Evidence Base

The committee reviewed [Bristol net zero by 2030: The evidence base report](#) for direct emissions from Bristol making several observations to improve understanding and utility of the evidence for the purpose of shaping the One City Climate Strategy.

The consultants for Bristol City Council presented their findings to the BACCC on several occasions providing an opportunity for technical discussion of key points to be explored in great detail. Having completed its review BACCC was pleased to endorse the approach and findings that constituted the evidence base, noting that next steps will need to involve developing policy solutions to drive investment and decarbonization approaches across the city.

The evidence base provides a number of key recommendations including sufficient funding, new local powers to organize and initiate action, stronger national policies, regulations and market roles and a sustained culture change programme. Securing the route to become carbon neutral will require a truly radical and transformative approach, achieving a rate of change 1.6 times the current rate achieved, applying technologies and techniques and establishing and maintaining increased levels of public and business engagement.

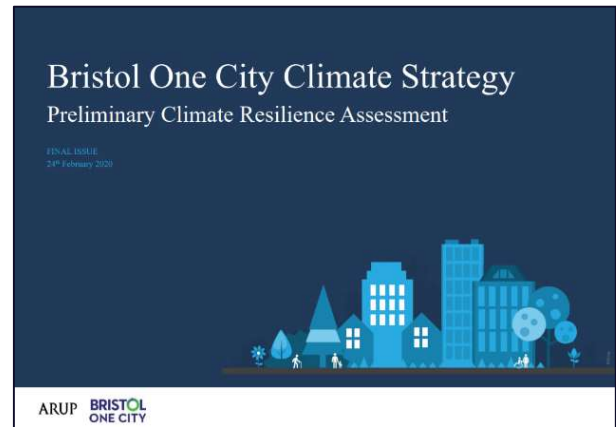


Recommendations for Bristol's 'Net Zero by 2030' evidence base:

- The committee endorsed the approach and findings of Net Zero report

2: Preliminary Climate Resilience Assessment

BACCC welcomed the [Preliminary Climate Resilience Assessment](#), which brought together for the first time a range of information and available evidence on some of the climate change risks that Bristol faces. The assessment identified hazards faced by different sectors and lays out some clear priorities for the city to focus and build upon, within existing plans and initiatives.



However, the committee reinforced the need, which was identified in the assessment, for further work to build the evidence base for Bristol's climate risks and resilience. The assessment took a narrow look at a small number of particular hazards viewed in isolation, rather than at the full picture of exposure, vulnerabilities, and capacities in the context of a changed and changing climate system. Whilst building adaptive capacity is identified as vital, it is too narrowly defined as a collection of hazard management plans rather than the potential of individuals, communities and societies to be actively involved in processes of change so that negative impacts can be minimised and any opportunities from climate change realised. The unpaid economy and care work is also absent from the assessment and yet is crucial to the functioning of the city including as a means of coping during disruptions and crises whether climate-related or otherwise.

The committee recognised that the assessment is a first step in building the evidence base for Bristol's climate resilience and although there are questions over some of the specific risk ratings given in the report (e.g. Low for Extreme Heat for Buildings and Education), the committee felt that the overall conclusions drawn are sensible and echo the assessment recommendation that further more encompassing work is needed.

The committee would encourage: a clearer and more people-centered definition and articulation of climate resilience; comprehensive resilience assessments of all planned developments (such as the Joint Local Transport Plan (JLTP) 4); and a clear vision and strategy for what climate resilient by 2030 means for Bristol developed with affected communities. BACCC strongly encourages future work on Bristol's climate resilience to include the unpaid economy, as an undervalued and overlooked sector that is crucial to the functioning of the city, and has identified some key learnings from the COVID-19 pandemic that may help to inform this work (See Appendix 5) .

Recommendations for Bristol's resilience planning and assessment:

- Quickly build on the initial assessment and commission the further work to increase understanding of adaptation and resilience in the city – including more comprehensive assessment of extreme weather, vulnerability of different groups and communities and risk assessments of new, adaptive Net Zero infrastructure
- Use this to set **a clear vision and strategy for a climate resilient Bristol** , putting people at the heart of Bristol's resilience planning by **working with affected communities and building a strong economic case**
- Learn from the COVID-19 pandemic and its impact on behaviours and systems and the impacts of legislative or policy interventions to see where they have worked or otherwise
- Assess the resilience of policy and planning developments such as the Joint Local Transport Plan 4

3: The Carbon Footprint of the Economy and Consumption of Bristol

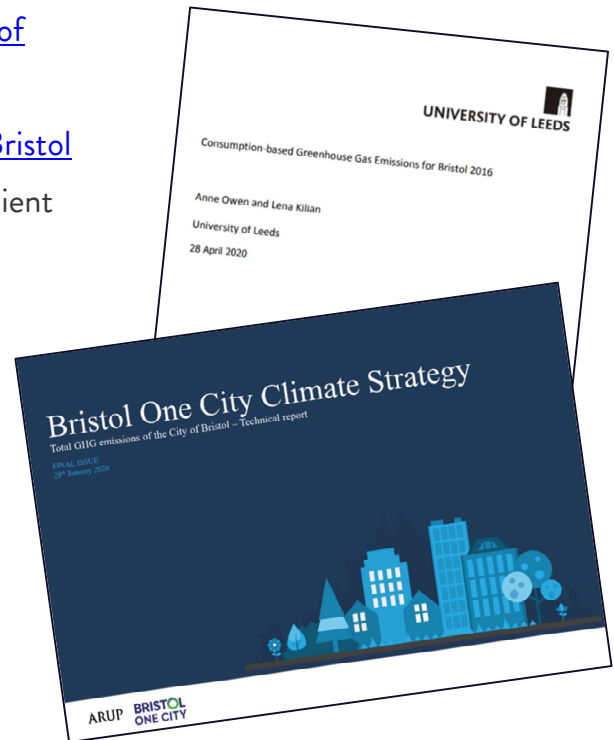
Bristol is one of very few cities working to reduce its Scope 3 emissions. This is important because these form the largest portion of Bristol's emissions. The BACCC recognised that the quantification of Scope 3 emissions is very challenging, particularly at city scale, and that there are limited practical methodologies for quantifying these emissions. In addition, it is also recognised that the level of influence the city has over these is lower than other emissions sources.

Across both Arup's [Total GHG emissions of the City of Bristol Technical Report](#) and the University of Leeds' [Consumption-based Greenhouse Gas Emissions for Bristol 2016](#) study the committee felt that there was insufficient transparency of methods used, limitations, assumptions, uncertainties and methodological options.

The working group identified double counting of emissions between the reports and found that the consumption-based approach used in the Leeds study risks placing the onus for carbon emissions reduction of Scope 3 onto individual citizens meanwhile climate mitigation requires systemic and structural change.

Due to the disaggregation across both reports, the evidence base does not lend itself to identifying targeted reduction activities. Whilst the studies provide useful insights into the scale of the challenge, further details would make them even more valuable for decision making.

A fuller analysis is recommended that pays greater attention to impact on Bristol's Scope 3 emissions from national and international restrictions on Scope 1 and 2 emissions. Mitigating Scope 3 is likely to be achieved through a combination of direct Scope 1 and 2 controls and purchaser decisions to include carbon considerations in their purchasing decision. BACCC will consider this question and offer advice in due course.



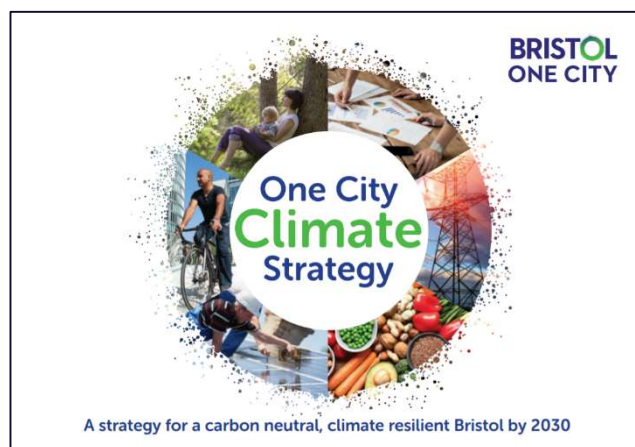
Recommendations for Bristol's Scope 3 carbon footprint estimation:

- Increase transparency of reporting
- Explore options and limitations
- Further research would determine targeted reduction activities

4: The One City Climate Strategy

During the development of the strategy, BACCC members attended meetings to review and provide input to the final drafts, including providing text. This led to specific changes in the language and content of the final strategy, and the incorporation of a glossary.

The committee recognizes the depth of work that has underpinned the development of the Bristol One City Climate Strategy and the timescales in which this work was undertaken. With this in mind, BACCC shares its reflections and recommendations that aim to help improve the clarity, focus and potential impact of the strategy as it becomes translated from policy into tangible action:



Terms need to be clearly defined in the strategy and subsequent plans so that the reality of the challenge is presented clearly and organisations are empowered to take a targeted approach to carbon emissions reduction and to build resilience. Further clarity could be provided through figures and labelling to aid readability.

The strategy would benefit from naming the local, regional and national stakeholders required to deliver the One City Climate Strategy, and referencing strategies such as WECA's Green Infrastructure strategy, which plays an essential role in delivering the One City Climate Strategy. It would also benefit from considering the unpaid sector and carers, which are currently overlooked in the strategy.

The strategy could further emphasize the need for dramatic attitude and behavioral changes, particularly around issues like consumption, private vehicle use and air travel. These changes will require full collaboration from residents, stakeholders and businesses in the city.

The strategy should refer more specifically to the evidence reports and provide clarity on how progress with its development will be measured (indicators/targets), reported, and monitored. There is a need to consider and highlight the importance of a holistic approach as many of the themes are,

in reality, deeply intertwined - the format and separation of themes in the strategy does not make this evident.

The strategy needs to specify the required next steps about what will happen, who will be involved and how action will be taken. This can assuage avoidable climate anxiety by demonstrating the ambition and real opportunity for change.

Recommendations for the One City Climate Strategy:

- Specify next steps
- Improve clarity and focus
- Acknowledge interdependencies
- Be explicit about scale of societal change required
- Include the unpaid economy

Supporting effective climate policy

In May 2020, the BACCC established a working group specifically to support the integration of climate change mitigation and adaptation into existing and new policies to ensure these align with Bristol's target to become carbon neutral and climate resilient by 2030. In this way, the committee is able to respond to local and national policy consultations and can prepare infographics and briefs for policy makers. The group has already identified several opportunities to contribute, including drawing on the register of experts for greater impact, engaging One City stakeholders including Bristol City Council more closely and working with PolicyBristol to provide effective guidance and responses.

To date the committee has collaboratively responded to a Department for Business, Energy and Industrial Strategy (BEIS) consultation on [Future Support for Low Carbon Heat](#), with details of preferred design for grants supporting low carbon heat installations, preferable routes to successful installation of smart meters, details of local air quality considerations and examples of budget

management. The committee's response - supported by evidence from consultancy reports, government data and academic research - was shared with other One City stakeholders and helped others to form a response.

"The council were pleased to work with BACCC on the response to the UK's Parliament Transport Committee call for evidence. Working together on this response provided invaluable results for the council and ensure that the question was being approached from both the research and practitioner perspectives."

Transport Planner, Bristol City Council

The committee has also advised on the development of Bristol City Council's Fuel Poverty Action Plan, providing an alternative to EPC ratings as an indicator of progress, commenting on and enhancing the feasibility and ambition of planned actions.

"In the development of Bristol's Fuel Poverty Action Plan, BACCC provided incredibly useful feedback and contributions on the plan that aims to tackle fuel poverty in the city. Maintaining a collaborative relationship with BACCC can help us to ensure that future re-iterations of the action plan align with local and national objectives and include insight and expertise from practitioners and researchers."

Energy Officer, Bristol City Council

After reviewing its 2020 activities, BACCC will approach the national Committee on Climate Change with a view to coordinating more effectively on policy issues, as well as provide feedback directly relevant to city-level challenges.

Local reflections on CCC reporting and recommendations

The BACCC has followed closely developments of the national Committee on Climate Change (CCC) and has localised guidance and information issuing from it to key stakeholders in Bristol. In May, the BACCC wrote to the Mayor of Bristol and the One City Environment Board to summarise opportunities to apply the CCC's Principles for a Resilient Recovery locally (See Appendix 4).

These opportunities include: making investments in low-carbon and climate-resilient infrastructure by progressing key projects identified within the One City Climate Strategy; supporting reskilling, retraining and research for a net-zero, well-adapted economy to ensure a pipeline of green jobs are accessible across the city; prioritizing housing retrofit as a key intervention required in Bristol's net zero journey; making it easy for people to work, cycle and work from home; and, investing in tree-planting, green spaces and green infrastructure to create jobs and also support wellbeing as the city recovers.

The BACCC aims to help the city understand the local implications of national decisions regarding mitigation and adaptation, and supporting the City Council and other key stakeholders (such as the One City Environment Board) to navigate and influence areas where they have no direct influence but may be able to inspire significant change through inspiration and promotion of activities.

The BACCC will aim to broker further links with the CCC to better explore and understand the interrelationships between the local and national governing mechanisms and create a two-way conversation, which will be key to achieving carbon neutrality nationally.

Conclusions on Year One

In its first year the Bristol Advisory Committee on Climate Change has established a membership and register of experts comprising a diverse range of expertise, well placed to support the city's progress with its 2030 carbon neutral and climate resilient ambition. It has formalized ways of working to enable effective and efficient response to emergent priorities and has developed links with all six One City thematic boards.

Early on in its establishment, the committee reacted quickly to supply expertise and support during the development of the One City Climate Strategy and its evidence bases and has since responded to several policy consultations.

The committee is highly supportive of Bristol's leading carbon neutral and climate resilient ambitions and recognizes the urgency of the challenge requires action at pace. However, it observes that **Bristol's definitions of carbon neutrality and climate resilience would benefit from being clarified, with boundaries drawn and shared publicly.** The BACCC is well placed to support these definitions and can offer clarification on challenges relating to Scope 1 (direct emissions), Scope 2 (emissions from purchased or acquired electricity, steam, heat and cooling) and Scope 3 (emissions from value chain) and an informed opinion on appropriate emissions boundaries, as well as reorienting climate resilience from a narrow focus on hazards to a more holistic and people-centered vulnerability reduction approach.

The BACCC recommends the **production of year on year indicators and targets to demonstrate ambitions laid out in the One City Climate Strategy**, and again can offer expert support with this.

Alongside these recommendations, however, the committee recognizes the extraordinary efforts being taken by Bristol City Council and One City partners to evidence and formalize Bristol's ambitions, despite the relatively limited scope of influence over Bristol's overall emissions and practices. These efforts have also been challenged by the onset of the COVID-19 global pandemic, which has initiated considerable and systemic change across the city and beyond.

Despite the urgency required in responding to the pandemic, the committee urges Bristol City Council and One City partners to **remain committed to the importance and urgency of the climate emergency work, including the allocation of appropriate financial resources.**

In order to successfully reorient the city in favour of a more sustainable, inclusive, and resilient city, the committee would encourage all One City boards and partners to **ensure the climate and ecological emergency features in every aspect of planning and decision-making.**

Early carbon savings will be the most beneficial to Bristol's ambitions – firstly by reducing as soon as possible the total amount of emitted climatically active gases in the atmosphere, some of which remain there for decades to centuries, and secondly by avoiding putting off required action until later when costs will rise and capability to manage the size of the task may not be present. **Getting strategies and plans in place as early as possible will also avoid unnecessary disruption in the future.**

Despite local and global mitigation efforts, the impacts of climate change are likely to bring significant challenges to Bristol. The committee reemphasizes **the importance of adapting to climate change over the short, medium, and long term** that is vitally needed for communities in Bristol to be able to thrive in spite of the degree of climate change expected within our current trajectory.

The committee has identified that its next steps are as follows:

- **To work closely with the National Committee on Climate Change and other key agencies – to understand and contextualise key developments for Bristol and exchange insights and learnings from Bristol.** To include where appropriate: Building upon our initial work in learning from the approach in other UK and overseas cities; and exploring Bristol's potential links with the UNFCCC's Race to Zero
- **To increase the focus on climate risk and adaptation needs.** To include where appropriate: Advising on the development of a more comprehensive evidence base; raising awareness of the importance of understanding and adapting to climate change and building

resilience in our communities and city; and, supporting a more systemic approach to prepare Bristol for short- and longer-term shocks and disruptions whilst reducing vulnerabilities;

- **To monitor progress of delivery of the One City Climate Strategy.** To include where appropriate: Providing a critical assessment of delivery plans and advising on the appropriateness of indicators and targets for monitoring implementation of the One City Climate Strategy.
- **To support local Climate Emergency communication and engagement activity.** To include where appropriate: exploring opportunities to support local COP26 activity and build links with national activity; supporting community climate engagement and action planning to align with citywide ambitions (and vice versa) as part of the Community Climate Action Project; and to support Bristol Green Capital Partnership's newly established Climate Leaders group by recommending advice and guidance to better inform purchasers about the inclusion of carbon considerations in their purchasing decision and on the role of carbon offsetting in achieving Bristol's 2030 carbon neutral target.

The committee will look to the evidence to explore how boards on the city directorates have considered and made explicit their approach to implementing the One City Climate Strategy in their plans and work. It will also take further steps to draw upon and engage the register of experts.

One caveat and limitation to its work is that the BACCC is a voluntary group with no assets aside from the goodwill and commitment of its members and experts. Although it is well positioned to offer guidance and advice, it is unable to undertake research or in-depth technical analysis of large volumes of data, for example, without additional resourcing.

Conclusions:

- BACCC celebrates the level of the city's climate ambitions
- Highlights the critical importance of further focus on adaptation and resilience
- Increase clarity on carbon emission boundaries and plans

Looking forward BACCC will:

- Begin a critical assessment of progress with the One City climate strategy
- Continue to offer technical support, advice and review of the city's progress
- Support city wide Climate Emergency engagement and communications

Appendices

Appendix 1: Bristol Advisory Committee on Climate Change Terms of Reference

Purpose

To act as an independent technical committee to advise the Bristol City Office, the six One City thematic boards, Bristol City Council and other stakeholders on mitigating greenhouse gas emissions and adapting to climate change.

Through its actions, the Committee will seek to accelerate Bristol City's progress to achieving net zero by 2030 and to adapt to climate change in an effective, efficient, inclusive, and just manner.

The Committee will become a trusted voice on climate change in Bristol.

The urgency of the climate emergency requires the Committee to work at pace.

Terms of Reference

- To review and advise on evidence on current emissions and expected trajectories for the city (e.g. considering population, energy demand etc.), covering GHG Protocol Scopes 1- 3.
- To provide independent technical advice on measures to mitigate emissions and on the role of carbon sinks to support the achievement of a carbon neutral Bristol by 2030.
- To provide independent technical advice on adaptation needs and measures in response to the consequences of anticipated climate change.
- To liaise with the National Committee on Climate Change.
- To liaise with key stakeholders in Bristol, such as its largest businesses and organisations, education, service and healthcare providers to share evidence and analysis and to support mitigation and adaptation within the public, private, voluntary and domestic sectors.
- To establish an Expert Register comprising individuals with specific technical expertise who can be called upon to support the work of the Committee.
- To provide a biennial report on progress in reducing emissions and achieving carbon budgets and targets.
- To provide a biennial report on adaptation needs and progress in implementing measures.

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- To provide such *ad hoc* reports as required to address emergent issues or urgent technical questions
 - To undertake such tasks as may be necessary to support progress towards achieving a carbon neutral and climate resilient Bristol by 2030.
 - The Committee will agree on a definition of key terms including “carbon neutral” and “climate resilient Bristol”, subsequently these will guide the future work of BACCC.
 - To refer to the Government Office for Science’s Principles of Scientific Advice to Government when offering advice.

Membership

- Two co-chairs.
- Initially around twenty (20) appointed individuals with the technical expertise and the capacity to engage.
- Such co-opted members as the Committee requires to discharge its business.
- Co-chairs and Members will be appointed for up to three years in the first instance but can be reappointed by the City Office for further periods of office.
- Bristol Advisory Committee on Climate Change members have been appointed on the basis of their individual applications but may be in a position to represent and leverage their organisations to help deliver the committee’s purpose ambition.
- Committee members will not be able to hold or actively seek political office, nor be a spokesperson for any political party. This does not preclude Board members from being a member of a political party.
- Members may by notification end their own appointment, and the committee shall implement such provisions as are appropriate to fill any vacancy arising.
- The organisation to which the member ending their appointment is affiliated may wish to recommend an alternative member of sufficient seniority for committee members to consider. On receipt of such a recommendation, the Committee must approve the appointment by a simple majority in a quorate meeting.
- Committee members will not be able to hold or actively seek political office, nor be a spokesperson for any political party. This does not preclude Committee members from being a member of a political party.

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- It is expected that members will work professionally and co-operatively towards the Committee's shared ambition and agreed ways of working.

Term of appointment and ending of appointment

- The Committee is able to deselect members, can nominate members and co-opt such expertise as is needed to discharge the terms of reference.
- Committee members may by notification end their own appointment, and the committee shall implement such provisions as to fill any vacancy arising, via an application process or co-option. The organisation that the member ending their appointment was representing may wish to recommend an alternative member of sufficient seniority for Board members to consider.
- The Mayor of Bristol appoints the co-chairs for a three-year period of office. The Committee by a majority vote can indicate to the Mayor that they no longer have confidence in one or both co-Chairs.

Decisions

- Wherever possible, the Committee's decisions should be made by consensus as reached through open debate and discussion. In circumstances where a formal vote is necessary, a majority decision shall be required. In the event of a tie, the chair of that meeting shall hold a casting vote.

Clerk to the Board

- COO, or nominee, of the Bristol Green Capital Partnership.

In Attendance by Invitation

- Individuals on the Expert Register.
- Officers of Bristol City Council.
- Bristol Green Capital Partnership.
- Such others as may be necessary for the Committee to discharge its business.

Quoracy

- One third of the membership.

Meeting Frequency

- Once a month, or as required.

Reporting Relationships

- One City Office.
- One City Boards.
- Bristol City Council.
- Other entities as may be necessary to meet the purpose of the Committee.

Reporting Bodies

- Task and Finish Groups and such other structures as may be appointed by the Committee to discharge its work.

Legal

- The Bristol Advisory Committee on Climate Change will not be a legal entity. It does not directly control resources, employ staff, nor will it be able to enter into contractual arrangements.
- It will not be able to make decisions about the use of public money. It also shall not be regarded as a statutory body.
- Its legal basis, powers and ability to raise and direct funds and powers may be reviewed in future.

Bristol Advisory Committee on Climate Change meetings will not be held in public and its proceedings will not be published except where formal reports are published. Some information shared with the Committee members will be confidential and this will be marked as confidential and members will treat it as such. Other information relating to the committee is not-confidential and can be shared with relevant partners for the purpose of discharging the Committee's purpose.

Register of interests

- All members of the Board must complete a register of interests and declare any items under discussion that are of direct or indirect personal or professional pecuniary or non-pecuniary interest.

Bristol Climate Change Advisory Committee

November 2019

Appendix 2: Members of Bristol Advisory Committee on Climate Change

Name	Role	Organisation
Members		
Alasdair Cameron	Head of Investigations	Friends of the Earth England, Wales and Northern Ireland
Alix Dietzel	Lecturer in Global Ethics	School of Sociology, Politics and International Studies (SPAIS) University of Bristol
Ben Smith	Principal Climate Change Consultant	Atkins
Bill Gething	Professor of Architecture	UWE Bristol
Catherine Pettengell	Independent consultant	Climate change, adaptation and resilience
Charlie Makin	Senior Strategy Advisor	Department for Environment, Food and Rural Affairs
David Tudgey	Project Development Officer	Bristol Energy Network
Emma Jolly	Senior Sustainability Consultant	Hoare Lea
James Peet	Principal Consultant, Sustainability	WSP
Josh Bullard	Technical Director	Hydrock
Joshua Thumim	Head of Research and Analysis	Centre for Sustainable Energy
Laura de Vito	Research Fellow: Air Quality Management Resource Centre	UWE Bristol
Liz Parkes	Deputy Director Climate Change and Business Services	Environment Agency

Lorraine Whitmarsh	Director	UK Centre for Climate Change & Social Transformations (CAST)
Matthew Wood	Independent Energy Consultant	Built environment and renewable energy
Natalie Fee	Founder	City to Sea
Natalie Francis	Senior Carbon Consultant	Mott MacDonald
Ola Michalec	Research Associate	University of Bristol
Robert Rawlinson-Smith	Independent	Renewable energy systems
Sam Willitts	Energy & Sustainability Manager	University Hospitals Bristol NHS Foundation Trust
Simeran Bachra	UK Cities Manager	CDP
Simon Proctor	Head of Origination and Product	Co-op Community Energy
William Clayton	Senior Lecturer in Human Geography	UWE Bristol
Co-chairs		
Jo House	Research Lead, Global Environmental Change theme, Director "Climate Change Science and Policy" Masters Programme	School of Geographical Sciences, Cabot Institute of the Environment
Jim Longhurst	Assistant Vice Chancellor, Environment and Sustainability Professor of Environmental Science	Faculty of Environment and Technology, UWE Bristol

Appendix 3: Expert invitees presenting to BACCC and subject area

October '19 meeting

- Alex Minshull of Bristol City Council – City Carbon Budget and Emissions Trajectory to 2030
- James Sterling of Bristol Energy Service – an update on Bristol's City Leap initiative
- Simon Roberts of Centre for Sustainable Energy – an overview of progress with Net Zero Report

November '19 meeting

- Mayor Marvin Rees – Welcome to committee and introduction to One City approach
- Lucy Vilarkin of Bristol City Council – Council's work to date on resilience

December '19 meeting

- Simon Roberts of Centre for Sustainable Energy – emerging findings from Scope 1 & 2 gap analysis
- Professor Hayes and Laura Fogg-Rogers of UWE – findings from ClairCity project

January '20 meeting

- Ann Cousins of Arup – feedback on evidence bases as developed so far

February '20 meeting

- Jess Buck of UWE – socio-economic barriers of Bristol becoming carbon neutral by 2030

June '20 meeting

- Adam Corner of Climate Outreach – communicating climate change post-COVID-19

September '20 meeting

- Alex Massie and George Beechener of Eunomia – findings from report to BCC on carbon offsetting
- Owen Hewlett of Gold Standard – state of play, trends and considerations for carbon offsetting

October '20 meeting

- Rose Bailey of Ricardo – experience and lessons learned from working on climate strategies in cities ranging from Delhi to Oslo, Lima and Los Angeles.

Appendix 4: Letter contextualizing the CCC's Principles for a Resilient Recovery to Bristol

Bristol Advisory Committee on Climate Change

Dear Mayor,

15 June 2020

Building a climate resilient recovery from the COVID-19 crisis

The BACCC welcomes your ambition to embed the United Nation's Sustainable Development Goals (SDGs) in Bristol's recovery from COVID-19, which will also support Bristol's fairer transition to become a carbon neutral and climate resilient city.

As the Council further develops its One City Economic Recovery plan, we are writing to offer our advice on how climate change policy can support your efforts to build back better and achieve the SDGs. Actions towards net-zero emissions and limiting damage from climate change¹ will help Bristol rebuild with a stronger economy and increased resilience.

We consider that the recovery process creates a unique moment to enhance efforts to reduce greenhouse gas emissions and adapt to climate change, to enable a recovery that keeps Bristol on track to meet its 2030 net zero and climate resilience commitments. Actions taken now will not only determine whether those goals are met, but investments made now for the purposes of recovery can turbo-charge the 'just transition' needed, and help catalyse the important changes that Bristol aims to achieve.

In May, the UK Committee on Climate Change wrote to the Prime Minister to lay out six Principles for a Resilient Recovery. We write now to commend these principles to you and call for these to be adopted as guiding principles in Bristol's recovery plans:

- Use climate investments to support the economic recovery and jobs
- Lead a shift towards positive long-term behaviours
- Tackle the wider 'resilience deficit' on climate change
- Embed fairness as a core principle
- Ensure the recovery does not 'lock-in' greenhouse gas emissions or increased climate risk
- Strengthen incentives to reduce emissions when considering fiscal change

Suggested areas for urgent action

In addition to embedding these six principles across all the Council's activities, plans, and investments, we offer the following suggestions for measures that could immediately be expanded to have economic, social, and environmental benefits for Bristol:

Investments in low-carbon and climate-resilient infrastructure: Every effort must be made in this immediate crisis to protect jobs and industries. In doing so, it is important that the Council and other actors remain mindful of the impact of their actions on achieving Bristol's net zero goal. Recovery investments can support a fair and inclusive approach to new job creation that also support emissions reductions and enhanced climate resilience. Business as usual will not achieve this goal, as the old ways will not see us through this crisis or turn the tide on climate change. The One City Climate Strategy investment options for low-carbon and climate resilient infrastructure – such as heat decarbonisation and renewable energy – can accelerate renewal and recovery. The crisis has also highlighted the importance of well-resourced public services, a flourishing voluntary sector and the community response, which will be vital for managing the impact of climate change – investing in public services will therefore go a long way to addressing the 'resilience deficit' identified by the CCC.

Supporting reskilling, retraining and research for a net-zero, well-adapted economy: A significant impact of the crisis has been a rise in unemployment. Getting people back to work will be a key priority for the Council. Encouragement for investments that align with the aims of the One City Climate Strategy will help reduce unemployment, enhance skills and create the workforce needed for a carbon-neutral and climate resilient city. A just transition requires reskilling and retraining, therefore this powerful and lasting investment could serve both in response to the crisis and to enable the implementation of the measures and infrastructure in the One City Climate Strategy, such as heat decarbonisation, retrofitting homes, and recycling and waste management.

Upgrades to our homes ensuring they are fit for the future: Retrofitting homes in the city is a key pillar of the One City Climate Strategy that must also now be accelerated. Not only will this increase energy performance thereby reducing emissions, it will boost employment and the local economy while at the same time as lowering domestic fuel bills, reducing the financial burden on households across the city.

Making it easy for people to walk, cycle, and work remotely: There is an opportunity to embed new social norms, especially for travel and homeworking that benefit wellbeing, improve productivity, and reduce emissions. The Council has already taken actions to increase cycling and walking provision in the city in response to the reduced capacity and safety of public transport due to this crisis. This is welcome, and we consider it to be the right approach to bring forward plans to further enhance low-carbon and healthy travel opportunities. The Council's swift action in this regard provides a fantastic example of what positive and lasting impact can be achieved by bringing forward climate-friendly plans and policies at this critical time. We strongly encourage the Council to maintain this momentum and push further for positive changes to our transport networks which can give people realistic options for more sustainable travel. The Council can also lead the way through its own operations, such as encouraging home working and taking sustainable fleet management decisions, through public communications and awareness campaigns, as well as through the right infrastructure investment.

Tree planting, green spaces and other green infrastructure: This crisis has strengthened the appreciation for nature-rich green space and awareness of the co-benefits between healthy ecosystems, sustainable economies, resilience to shocks, and our social and mental wellbeing. We recommend that the health and wellbeing of people and nature is placed at the heart of the recovery, and access to nature-rich green space for everyone is increased. COVID-19 has taught us that we cannot afford to underestimate the value of nature, which we rely upon for our very survival. Green spaces and green infrastructure are also hugely important for climate resilience, and act as carbon sinks.

We commend you for work already started to integrate a low carbon, just and climate resilient approach into the One City Economic Recovery. We are committed to support you in steering a course through this crisis, whilst delivering a resilient recovery for Bristol.

Yours sincerely

Dr Jo House and Professor Jim Longhurst

On behalf of the Bristol Advisory Committee on Climate Change

Appendix 5: Learnings from COVID-19 to inform Bristol adaptation and resilience planning

Insights from the Resilience working group, coordinated by Dr Ben Smith and Catherine Pettengell:

We can see, through COVID, the importance of being prepared for short- and longer-term shocks and the importance of taking a systemic approach to being better prepared for disruptions and reducing vulnerabilities.

There is important learning from a resilience perspective that we can draw on from the COVID-19 pandemic that we have suffered this year. The first is that resilience requires ‘redundancy’ in the system - that is resources and capacities available to draw on or be repurposed in times of crisis. Where support systems - both formal and informal - have been systematically reduced and over-stretched during a decade of austerity, this resulted in not enough capacity even in ‘normal’ times. This in turn means that there is no - or very little - resilience in the system when there is any sort of crisis, whether that be a pandemic or a weather-related event. A measurable example of this is the rise in dependency on food banks over the last 10 years. Food banks could be an important resilience measure for impacted individuals and communities at times of crisis, but when they are already operating at maximum capacity during ‘normal’ times, that capacity is absent.

Second, the unpaid labour undertaken across our city and communities - and largely carried out by women - in childcare, and caring for the sick and elderly is a backbone of resilience, yet frequently not supported or catered for in city planning and investments. With schools closed during the pandemic this additional childcare fell on parents, with more people sick caring for family members increased dramatically. In times of crisis an enormous amount of our resilience comes from these unpaid, unrecognised, and often poorly supported areas.

Building a resilient Bristol must mean providing support in these areas. One example would be a shift in transport planning from an emphasis on getting office workers to city centre offices to also focusing on increasing functionality for those who need to travel around the suburbs without cars but with children, disabled, and sick family members to doctors’ appointments, childcare, and reaching otherwise isolated family members to shop for them and provide comfort

Third, the experience of COVID-19 underscores that resilience must not just consider direct impacts, but also indirect impacts. With COVID-19, we have had a health impact that required a lockdown (response measure), and the response measure resulted in an economic crisis. Therefore, when considering the resilience of the city to climate change, we must not just focus on a hazard or change, but also those issuing from mitigation measures implemented, and the knock-on challenges for households.