

Chichester District Council

Cabinet

8 September 2020

Draft Climate Emergency Detailed Action Plan

1. Contacts

Report Author:

Stephanie Evans – Environment Officer

Tel: 01243 534523

Email: sevans@chichester.gov.uk

Andrea Smith - Climate Change Officer

Tel: 01243 521175

Email: asmith@chichester.gov.uk

Cabinet Member:

Penny Plant – Cabinet Member for Environment and Chichester Contract Services

Tel: 01243 575031 Email: pplant@chichester.gov.uk

2. Recommendations

2.1 That Cabinet approves the Draft Climate Emergency Detailed Action Plan for public consultation.

3. Background

3.1 The Council declared a Climate Emergency in July 2019. A Climate Emergency Initial Action Plan was approved by the Council in January 2020. A Climate Change Officer was appointed in May 2020 with the task of developing a Climate Emergency Detailed Action Plan.

3.2 The draft Climate Emergency Detailed Action Plan was discussed at Environment Panel on 17 August. The panel recommended that the draft be approved for consultation purposes by Cabinet before being subject to public consultation in September/October.

4. Outcomes to be Achieved

4.1 That a plan is agreed with realistic and deliverable actions that can be implemented to address the Council's declaration of a Climate Emergency.

5. Proposal

- 5.1 The draft Climate Emergency Detailed Action Plan is set out in the appendix to this report. It references other Council policies that contribute to its aims such as the draft Local Cycling and Walking Infrastructure Plan, which has been the subject of significant public interest and will be published for public consultation in September 2020. Only one other item within the action plan has prompted significant recent debate and therefore attention is drawn to this item - Action 22 regarding the Climate Commission.
- 5.2 There have been calls from environmental groups and some Members for this event scheduled for 2022 to be brought forward so that members of the public could participate earlier in the process of considering how the district's emissions can be reduced. In light of this, an event is proposed for 2021. Instead of a Climate Commission, a Citizens' Jury event is proposed as it would better complement other proposed engagement activities. The nature of a Citizens' Jury and reasons for its selection are explained in the action plan under Action 22.
- 5.3 Another action to note is the proposed target for emissions reductions in CDC's own operations (Action 4), which, it is proposed, matches the scale of the area-wide target.

6. Resource and Legal Implications

- 6.1 As a framework document, the action plan does not have any legal implications in itself, but individual actions within it will do and these will be addressed as they move through the Council policy and project approval processes.
- 6.2 Regarding resource implications, the most significant resource change to the initial action plan concerns the substitution of a Citizens' Jury for the Climate Commission. This will be a smaller scale event, but it may be advisable to buy in some specialist help from organisations experienced in running Citizens' Juries, which may not have been necessary with a Climate Commission.
- 6.3 The Detailed Action Plan is a live document and will be further developed. The next stage will be to apply a cost/benefit assessment to the specified actions in the plan to ensure the maximum carbon reduction can be achieved from investment of time and resources.

7. Consultation

- 7.1 Public consultation on the action plan is proposed for September-October 2020, following which a version revised in response to the consultation comments will be presented to the Environment Panel in November and then to Cabinet for final approval in January 2021.

8. Community Impact and Corporate Risks

8.1 The action plan should have a positive community impact and no additional corporate risks have been identified.

9. Other Implications

Are there any implications for the following?		
	Yes	No
Crime and Disorder		X
Climate Change and Biodiversity The action plan is designed to address climate change & some of the actions within it have intended benefits for biodiversity.	X	
Human Rights and Equality Impact		X
Safeguarding and Early Help		X
General Data Protection Regulations (GDPR)		X
Health and Wellbeing Fuel poverty is addressed by action 3c of the plan.	X	

10. Appendix

10.1 Draft Climate Emergency Detailed Action Plan

11. Background Papers

11.1 None

Appendix

Proposed Climate Emergency Detailed Action Plan

Introduction

The Council declared a Climate Emergency in July 2019 and a Climate Emergency Initial Action Plan was approved by the Council in January 2020. This document develops the initial action plan. It is not intended to be a fixed and complete five-year plan as there is a need to balance completeness against the urgency of action that the climate emergency requires. Therefore, it will constantly be under development and review as new opportunities for action are found. It is presented in three parts.

Section A updates the initial plan which was in a tabular form and the aim is to give an overview of how the initial plan has developed. Updates to Section A are shown in bold. Achievement of some actions has been delayed. Other actions have been progressed earlier than envisaged.

In the rest of the document the actions are ordered differently to the initial action plan and are divided between actions where CDC will be the lead, although others also have an important role (section B) and actions where others - individuals and organisations – will be the key partners (section C), although CDC will still have an important role. This latter case applies to the achievement of the area-wide target of 10% emissions year on year until 2025. Therefore, the key part of Section C is a process for involving individuals and organisations of all kinds in reducing the area's emissions.

This district-wide process has three components to it:

1. **Working Groups.** This component entails working through existing partnerships/groups of organisations to progress carbon reduction projects. Many partnerships and groups already have proposals for reducing carbon emissions or are developing visions for the future of specific geographical areas and would welcome CDC's help in ensuring they develop sustainably. However, there are also identifiable instances where a new working group on a particular theme e.g. transport would be beneficial and CDC could initiate a group.
2. **Behaviour change campaign & dialogue.** This would encourage individuals to reduce carbon emissions linked with their lifestyles. Importantly it would also provide an online platform for them to contribute their views on carbon reduction in the district.
3. **Citizens' Jury.** To establish a Citizens' Jury in 2021 comprised of a dozen or so members of the public selected to represent the demographic profile of the Chichester district. They will call on expert evidence to help them formulate detailed recommendations that can inform the decision-making of district councillors. The Citizens' Jury would replace the action point on a Climate Commission due to be held in 2022.

These components are developed below under Actions 3, 21 and 22. However, they are complementary, as shown by Table 1 below.

Table 1: Engagement components

	Who is involved?	What is the output?	Duration
Working Groups	Organisations	Implementation of low-carbon projects & visions for particular geographical areas.	On-going
Behaviour change campaign & dialogue	Individual citizens	Lower carbon lifestyle, input of ideas & comments on carbon reduction in area.	Time-limited behaviour change campaign. Online dialogue platform would be on-going.
Citizens' Jury	Individual citizens	Recommendations for the district as a whole.	A few days' duration

The components will work together to provide on-going channels through which both individuals and organisations can work together to reduce carbon emissions in the district to develop and implement their own ideas. Furthermore, each component will inform the others, as will be outlined under Actions 3, 21 and 22. Some informal external engagement has already been conducted in moving from the initial action plan to this document and this is listed at the end of each action where this has occurred.

Section A:

Table 2 Actions based on the Climate Emergency Initial Action Plan

Cross-cutting themes: Putting our climate at the heart of decision making, ensuring all decision-making and investments are sustainable.

	Action	Target	Timescale
1	Complete recruitment to Climate Change Officer post.	Suitable qualified and experienced person in post.	May 2020 Achieved
2	Develop the Climate Emergency Detailed Action Plan, containing detailed targets and project milestones, from this Initial action plan. The full plan is to be reported to the Environment Panel and approved by Cabinet.	Plan adopted by Cabinet and Council.	Was September 2020 Now consultation September/October 2020. Revised version to Environment Panel in November & to Cabinet in January 2021.

	Action	Target	Timescale
3	<p>Set a local authority area-wide target for District CO₂ reductions of 10% year on year until 2025. Work with partner organisations across the District to co-ordinate actions towards meeting this target (see also action 22).</p> <p>3a Existing working groups identified or new groups established to implement projects to reduce greenhouse gas emissions in the District.</p> <p>3b Increase the installation of PV panels across the District.</p> <p>3c Reduce fuel poverty & excess cold in households in the District while ensuring greenhouse gas emissions do not rise as a result through supporting CDC Housing Standards Manager.</p> <p>3d Work to reduce greenhouse gas emissions from taxis and private hire vehicles.</p>	<p>10% year-on-year reduction in emissions.</p> <p>3a To initiate working group approach.</p> <p>3b Launch Solar Together scheme.</p> <p>3c Support development & implementation of Housing Standards Financial Assistance Policy.</p> <p>3d Support implementation of new statutory standards for these vehicles.</p>	<p>3 Target in place by 2020, target to run to 2025.</p> <p>3a Initiated by first quarter 2021.</p> <p>3b September 2020</p> <p>3c Policy to go to Cabinet in November 2020.</p> <p>3d To be set.</p>
4	<p>Quantify current carbon emissions from CDC operations. Set a CO₂ reduction target for CDC operations (development of existing target).</p> <p>4a Set a target of a 10% year-on-year reduction in greenhouse gas emissions from CDC operations from a 2018-2019 base year until 2024-2025 (target to cover scopes 1 and 2 and selected scope 3 categories.</p> <p>4b Develop the process for estimating more of CDC's scope 3 greenhouse gas emissions.</p>	<p>Target to be set based on the outcome of further assessment work.</p> <p>Sufficient work carried out to enable assessment of target.</p>	<p>Target in place by 2020, target to run to 2025.</p> <p>4b 2022</p>

	Action	Target	Timescale
5	<p>Put in place a system for identifying those CDC decisions with impacts on carbon emissions, air quality and biodiversity and ensure that negative impacts are avoided or mitigated.</p> <p>5a Develop training on climate change mitigation for officers, including integration into financial planning.</p> <p>5b Collate & circulate overviews of funding sources for climate change mitigation.</p> <p>5c Integrate climate change mitigation into project development documentation.</p>	<p>That key decisions are identified in good time, impacts are assessed and any negative impacts are avoided.</p>	<p>Was systems in place by June 2020</p> <p>Now</p> <p>5a March 2021</p> <p>5b September 2020</p> <p>5c Draft September 2020</p>
6	<p>To report annually on the progress of this action plan.</p> <p>Change this to a quarterly report on progress of the plan to the Environment Panel and an annual report to the full Council.</p>	<p>Report to Environment Panel, identifying progress, successes, any new funding opportunities for evaluation and any changes to national policy context that will affect delivery.</p>	<p>Was “Annually from the adoption of the detailed action plan”.</p> <p>Now “A quarterly report to Environment Panel and an annual report to Council from the date of the adoption of the detailed action plan”.</p>

	Action	Target	Timescale
7	<p>To align our council statutory and non-statutory plans, policies and guidance with respective carbon reduction pathways and biodiversity restoration plans, including procurement.</p> <p>7a Ensure integration of environmental criteria into procurement practices.</p> <p>7b Integrate greenhouse gas mitigation into process of formulating recommendations to councillors.</p>	<p>Review of plans and policies together with recommendations for changes, to be reported back to Environment Panel and Cabinet.</p>	<p>Complete by September 2021</p> <p>7a Commencing August 2020.</p> <p>7b August 2020 for draft.</p>

Ref	Action	Target	Timescale	Services involved in Delivery
Low Carbon Chichester Funding				
Action 8	<p>Secure Low Carbon Chichester Funding from Homes England:</p> <ul style="list-style-type: none"> Decide on areas of focus - energy efficiency/renewables within public sector/community buildings; Establish joint agreement with HE and Linden on criteria for funding applications; CO₂ savings in kg/year, locations (anywhere, District-wide), public ownership and/or public access, value for money £/kg CO₂, deliverability, publicity; Establish match funding requirements from applicants. <p>8a Manage process of disbursement of funds.</p>	<p>Legal agreement signed and funds transferred.</p> <p>Funding criteria agreed</p>	<p>Was May 2020. Now Sept. 2020.</p> <p>Was July 2020. Now Dec. 2020</p> <p>8a Jan 2021</p>	<p>Environmental Strategy Unit (ESU) - project officer to lead. Legal and PR to support the project.</p>
Action 9	<p>Report on the feasibility of establishing an ongoing District-wide fund for delivery of carbon reduction projects and biodiversity restoration projects. This will include a review of the opportunities to raise money for low-carbon infrastructure, including the potential to use legal and planning mechanisms for offsetting residual CO₂ from new developments.</p>	<p>Report finished</p> <p>Implementation of funding (continuation of LCCF)</p>	<p>Was Sept 2020. Now May 2021</p> <p>Was end of 2020. Now end 2021</p>	<p>ESU – project officer to lead. Planning Policy Team, Finance</p>
Minimise emissions from new housing				
Action 10	<p>Require new development to achieve high levels of energy efficiency and minimise CO₂ emissions through policies within the Local Plan Review. (Subject to the outcomes of the Future Homes Standard consultation and implementation of any changes to the Building Regulations).</p>	<p>Highest viable level of CO₂ minimisation included in Local Plan review</p>	<p>Was 2020 (submission) Now 2021 (submission)</p>	<p>ESU, Planning Policy</p>
Minimise Corporate Carbon Emissions				

Ref	Action	Target	Timescale	Services involved in Delivery
Action 11	<p>Investigate opportunities to move to a Green Energy supplier within the existing LASER procurement framework.</p> <p>11a Investigate setting up Power Purchase Agreements (PPA) directly with renewable electricity and bio-methane generators.</p>	New supply contract in place	<p>October 2020 Achieved</p> <p>2023</p>	<p>Building Services</p> <p>Building Services, ESU</p>

Ref	Action	Target	Timescale	Services involved in Delivery
Action 12	<p>Report back on previous review of existing and identify new opportunities for carbon saving within the Council's estate including options for external funding through BEIS's Salix interest free loans.</p> <p>12a The financial and technical aspects of PV panel installation on all council assets e.g. the Avenue de Chartres car park and Westhampnett depot.</p> <p>12b Investigate ways to improve the delivery of wood pellets to fuel the biomass boiler at Novium Museum and to install LED lighting at Novium.</p> <p>12c Investigate low-carbon replacements and funding sources for the boilers in use across the CDC estate so that this information is collated for use when replacements become due.</p> <p>12d Collate existing initiatives that incentivise low-carbon work travel by CDC staff into a Green Travel Plan and identify gaps.</p> <p>12e Work with the review of use of East Pallant House so that greenhouse gas emissions are factored in to the evaluation of the options considered.</p>	<p>Report on 5 major buildings</p> <p>Report on other CDC properties</p>	<p>2021</p> <p>2022</p> <p>Underway</p> <p>To be decided</p> <p>To be decided</p> <p>Underway</p> <p>To be decided</p>	<p>Growth and Place Building Services, Estates, Business Support.</p>
Reduction in food waste				
Action 13	Develop local plans for reducing food waste within national policy frameworks and targets.	Dependant on national policy and funding developments.	End of 2020	Chichester Contract Services (CCS)

Ref	Action	Target	Timescale	Services involved in Delivery
Action 14	Investigate opportunities for diverting food waste to anaerobic digestion.	Target to be set in terms of CO ₂ saved / year.	End of 2020	CCS, WSCC
Increase tree planting				
Action 15	Increased tree planting on CDC land through carbon offset funding, Woodland Trust funding, or other national policy initiatives.	Parks Vision to include target for tree planting. Tree-planting to be progressed alongside development of Parks Vision.	2021	ESU, CCS
Action 16	Increased tree planting on non-CDC land through carbon offset funding, Woodland Trust funding and net biodiversity gain or other national funding streams.	Dependent on announcements on national policy and funding schemes.	End of 2020	ESU, Development Management
Action 17	Investigate opportunities for multi-function use of any land acquired for the mitigation of nutrient inputs into Chichester / Pagham Harbours. Wetland creation and tree planting would both act as carbon sinks and ensure that the land cannot revert to high input agricultural use.	Joint scheme of mitigation to be agreed with Partnership for South Hampshire and Natural England.	End of 2020	ESU, Planning Policy, Development Management

Ref	Action	Target	Timescale	Services involved in Delivery
Action 18	<p>Identify land with opportunities for tree planting within the Strategic Wildlife Corridors.</p> <p>Implement a series of habitat improvement projects within the Strategic Wildlife Corridors, including tree and woodland planting where appropriate.</p>	<p>Heritage Lottery Fund bid to be submitted. Bid was submitted, but HLF has closed its fund due to Covid 19 and alternative funding has been sought. Secure funding for the Strategic Wildlife Corridors Project through the Community Infrastructure Levy.</p>	<p>March 2020</p> <p>March 2021</p> <p>October 2022 – March 2026</p>	<p>ESU; implementation depends on outcome of funding for wildlife corridor enhancement project.</p>
Sustainable Transport				

Ref	Action	Target	Timescale	Services involved in Delivery
Action 19	Achieve enhancements to walking and cycle networks through partnership working. 19a Delivery of CDC's Local Cycling and Walking Infrastructure Plan (LCWIP) and contribute to WSCC's LCWIP.	Contribute to County's target of increasing the length of the cycle network by 15% per annum compared to a 5km base (across the County). Delivery of targets in LCWIP.	Spring 2022 19a CDC's LCWIP will be open to consultation in September 2020.	Environment Protection, West Sussex County Council
Action 20	Enable the continued expansion of the electric vehicle charging networks.	Will be developed based on the demand metrics from the recent installations and developments in the EV market	Ongoing	Environment Protection
Communication and Promotion of Lifestyle Changes				
Action 21	Promote, through various means climate change actions and lifestyle changes in the wider community including publicity campaigns such as the West Sussex Climate Change Pledge. NB West Sussex Climate Change Pledge has been under review.	Produce details of a costed campaign on key environmental issues (Climate Change, Biodiversity, Plastics)	Was end of 2020. Now 2021.	Public Relations/ESU

Ref	Action	Target	Timescale	Services involved in Delivery
Action 22	<p>Evaluate benefits and costs of setting up a Climate Commission. A commission would bring together major public and private sector organisations to:</p> <ul style="list-style-type: none"> • Co-ordinate and monitor actions that contribute to District-wide carbon reductions. • Share best practice and innovative project ideas • Work together to improve sustainable transport networks, (including bus services , park and ride, car-share schemes and car clubs) <p>Replace with a Citizens' Jury.</p>	Investigate opportunities for building on existing networks and partnerships.	<p>2022</p> <p>2021</p>	<p>Communities/ Corporate Improvement/ESU</p> <p>ESU/Communities</p>

Section B Chichester District Council Actions

Action 4 CDC greenhouse gas reduction targets

The greenhouse gas (GHG) emissions inventory for CDC is given in the section headed "Supporting technical data" at the end of the detailed climate action plan. All of the emissions sources commonly estimated in organisational inventories have been quantified. Some adjustment may need to be made for leased assets, which is under investigation by the Climate Change Officer. Nevertheless it is proposed that CDC set an emission reduction target to match the one which it set for the area's emissions: 10% year-on-year reductions until 2025 with a base year of 01/10/2018 to 30/9/2019. This base year covers the date when the Council passed its climate emergency resolution. The target would cover scope 1 emissions (e.g. emissions from fuel use in council-operated assets) and scope 2 emissions (e.g. emissions from electricity consumed in council-operated assets) and some Scope 3 emission categories.

Scope 3 is a category of emissions that covers emissions associated with the Council's supply chain (e.g. goods and services that it has purchased) and emissions associated with Council's activities (e.g. emissions from the processing of waste and recyclable materials collected through its trade waste collection service). In general Scope 3 requires more comprehensive and sophisticated data collection and it is proposed that this is implemented in 2022 (Action 4a). However, emissions from some Scope 3 categories can be estimated now and it is proposed these are included in the target. These categories are business travel in employees' vehicles and the emissions associated with the production and distribution of fuels to the point of use (known as Well-To-Tank emissions) and emissions associated with the transmission and distribution of electricity.

A 10% year-on-year reduction would require the reductions set out in Table 3, although it is anticipated that reductions would not be linear as shown in the table, but would be unevenly spread across years as GHG emission reduction actions of different magnitudes were implemented. Over this period GHG emissions will be almost halved.

Table 3 CDC GHG emissions reduction target

Year end	GHG emissions in tCO ₂ e
2019	2,144
2020	1,930
2021	1,737
2022	1,563
2023	1,407
2024	1,266
2025	1,139

Action 5 Impact identification

A meeting with the Corporate Management Team and Business Support has been held to discuss a system for identifying CDC decisions with impacts on carbon

emissions, air quality and biodiversity and ensure that negative impacts are avoided or mitigated. It had the following outcomes.

- Climate Change Officer to instigate training for decision-makers across the council to assist them in developing projects and policies that support the council's climate emergency goal. This will be modelled on the training conducted within the council to support equality of opportunity (action 5a).
- Climate Change Officer to collate and circulate summaries of the funding opportunities as this will encourage decision-makers to incorporate environmental enhancements in their projects and policies. It will include information on payback periods of energy efficiency actions so that decision-makers have the latest information readily available (action 5b).
- Work with Business Support to amend CDC's project management process to enable project managers to fully consider climate change at the outset of a project in order to maximise opportunities to reduce carbon emissions (action 5c).

Action 6 Progress reports

It is proposed to increase the frequency of reports on the progress of the action plan from annual reporting in the initial action plan to quarterly reporting. The schedule for this will be determined by the date at which the Council adopts the Climate Emergency Detailed Action Plan which is expected to be January 2021.

Action 7 Policy alignment

This action point was considered at the meeting of the Corporate Management Team with the following outcomes:

- Climate Change Officer to support Democratic Services in its review of procurement practices so that environmental criteria are integrated (action 7a).
- Climate Change Officer to support Democratic Services in integrating greenhouse gas mitigation into process of formulating recommendations to councillors (action 7b).
- Further suggestions will be investigated.

Action 8 Low Carbon Chichester Fund

Developer Linden/Downland Graylingwell LLP has committed to pay into a fund an amount of money in proportion to the carbon emissions that its Graylingwell development is estimated to produce annually. This is expected to be approximately £250,000 in total.

A legal agreement is being finalised to set up a process through which these funds will be disbursed to greenhouse gas (GHG) mitigation projects in the district. This process will include a Governance Body comprising: a chair being the Cabinet Member for Environment and Chichester Contract Services of Chichester District Council, elected members appointed to the Environment Panel of the Council, and representatives of the developer, Homes England, and technical advisors, the Buildings Hub.

In accordance with the Council's constitution, the final approval of expenditure will be by Cabinet following the Governance Body's recommendation. Cabinet may also in certain circumstances resolve to delegate approval powers to the Cabinet Member for Environment and Chichester Contract Services.

The first meeting of the Governance Body has been delayed due to the impact of Covid-19 on the working arrangements of the partners. However, to prepare for the first meeting and to hasten the disbursement of the funds, the Environment Panel decided its priorities for the fund and its preferred process on 24 July 2020, although this will be subject to subsequent agreement with the rest of the Governance Body.

The Climate Change Officer is tasked with managing the process of the disbursement of funds by the Governing Body (action 8a).

Engagement already conducted

Homes England, Buildings Hub, East Hampshire District Council.

Action 9 District-wide fund

The Environment Panel has made clear that it would prefer the Low Carbon Chichester Fund to support projects that would return funds to the LCCF to enable further projects to be funded. However, all of the criteria for the disbursement of the LCCF have to be agreed with the other organisations represented on the Governance Body of the LCCF.

Action 10 Local Plan

Furtherance of this action point is contingent on the completion of the viability study into the financial "health" of developments in the District, taking into account the proposed CDC policies which developments would be expected to meet as well as regular development costs and national policies. Affordable housing levels, energy efficiency and biodiversity policies are examples of policies that would impact the financial outcome of developments and would be considered by the viability study.

Action 11 Energy procurement

CDC will commence a new electricity and gas supply contract in October 2020. Its electricity use will be covered by certificates that certify that amounts of (a) electricity and (b) bio-methane gas equivalent to the amounts of electricity and natural gas consumed by CDC have been inserted into the electricity and gas networks.

In 2023 Building Services and the Climate Change Officer will investigate setting up Power Purchase Agreements (PPA) directly with renewable electricity and bio-methane generators in partnership with other local authorities or other organisations in the district to reduce the amount of officer time needed to set up the PPAs. They will investigate ways to reduce the risk of the generator leaving the market, learning from businesses that are experienced in negotiating PPAs. (Action 11a)

Action 12 CDC carbon mitigation opportunities

Mitigation actions have already been taken by CDC. For example, among other steps, CDC has a policy that new and replacement cars and Light Duty Vehicle vans should be electric vehicles. Two car parking team vehicles have already been replaced by electric vehicles. East Pallant House has PV (solar electric) panels on its roof and solar thermal panels on the north wing extension. Pay-and-display machines have PV panels. Novium Museum has a biomass boiler.

Further steps to be investigated:

- The financial and technical aspects of PV panel installation on all council assets e.g. the Avenue de Chartres car park (Growth and Place division), and Westhampnett depot (Estates division) - Action 12a.
- Improving the delivery of wood pellets to fuel the biomass boiler at Novium Museum and to install energy efficient LED lighting at Novium, (Growth and Place division) - Action 12b.
- Investigate low-carbon replacements and funding sources for the boilers in use across the CDC estate so that this information is collated for use when replacements become due - Action 12c.
- Collate existing initiatives that incentivise low-carbon work travel by CDC staff into a green travel plan and identify gaps (Business Support) – Action 12d.
- Work with the review of use of East Pallant House by the Business Support Team so that greenhouse gas emissions are factored in to the evaluation of the options considered - Action 12e.

The Climate Change Officer will support the above activities.

Action 13 Food waste

A new commercial food waste collection service was due to be launched in April 2020 but was suspended due to COVID 19. A relaunch is planned for September 2020. Unlike other commercial operators, the service CCS will be offering will include working alongside businesses to help reduce the amount of food waste they generate as opposed to a collection only service.

Action 14 Anaerobic digestion

The food waste collected from the new [commercial waste service](#) will be going to an anaerobic digestion facility. The disposal of domestic household waste including food is the responsibility of WSCC which is currently reviewing the infrastructure options for when domestic food waste collections becomes mandatory, probably in 2023.

Action 15 Trees on CDC land

Climate Change Officer will convene a meeting of CDC officers with responsibility for any land to identify tree-planting potential with a view to attaining funding for tree-planting. An initial conversation with the Green Spaces Lead at Chichester Contract Services suggests the potential for a maximum of 400 trees to be planted at a range of locations with some taking up to 100 trees and other just taking one or two. A key consideration would be funding for watering those trees in the first two years of their life.

Section C Community Actions

Action 3 Area-wide target

Overview of Action 3

This section covers detail of what this target means in terms of emission reductions and includes some indicative actions to give a sense of the scale of the task ahead, which is considerable. Achievement will require everyone and every organisation in the district to play a part. One route for organisations to participate will be via the working group component of the engagement process. This section outlines the role of these groups.

What reductions to we need to make to achieve the area-wide target?

The Climate Emergency Initial Action Plan contained a target of 10% reductions year on year until 2025. Year-end 2019 has been taken as the start point as this was the year in which the climate emergency resolution was passed. A central government-funded tool called SCATTER has been used to estimate emissions. The latest data available in SCATTER from 2016 and 2017 has been used as a proxy for 2019 data as this will not be available until 2021. A 10% year-on-year reduction every year would take the area's emissions to 342,739 tCO₂e in 2025 (see Area-wide GHG emissions data from SCATTER

The data in the table below is taken from SCATTER and shows how the area's GHG emissions would change if a 10% reduction was made every year until 2025.

Table 4 in Supporting Technical Information at the end of the climate action plan).

SCATTER has been created to enable local authorities to see the effect of different actions on their area's emissions. Regarding our area's emissions, many of the actions modelled in SCATTER had to be selected at the highest level of ambition to get close to the 2025 target. Those actions that were not selected at the maximum level are generally not relevant for our area e.g. changes in international aviation and shipping practices. The selection would take emissions to 377,520 tCO₂e in 2025, which does exceed the 342,739 tCO₂e given above by 9%. This means that further ramping up of action will be required. Therefore, there does not appear to be a lot of leeway in the type of actions to be undertaken if the target is to be met i.e. there is limited opportunity to trade off a higher level of action in one area against lower level in another as effort needs to be maximised in nearly every area to achieve the target.

A full list of the actions selected in SCATTER to reach the 2025 target is given in Table 5 in the Supporting Technical Information at the end of the climate action plan. However, four of the easiest to visualize are given below to provide a sense of scale.

- 24% increase in forest cover by 2030.
- Tree-planting to increase current coverage by 30% by 2030; from 2030-2050 further increase of 20%.
- By 2050, 10% of current domestic housing stock is retrofitted in terms of heating and hot water demand to a medium level and 80% to a deep retrofit level.

- Average modal share of cars, vans and motorbikes decreases from current national average of 74% of total miles to 38% in 2050.

As mentioned above, SCATTER cannot fully take into account local circumstances so there may be opportunities/barriers to action that it does not capture.

Work with partners organisations across the district to achieve this target (see action 22).

CDC's own carbon emissions are small compared to the area's as a whole. The achievement of the area-wide target will be challenging (as the SCATTER list of actions emphasises) and will largely be done by other organisations and individuals. Therefore, an engagement plan has been drawn up to involve as many in the District as possible while staying tightly focussed on achievement of the target. The three components to this are summarised in the introduction. Engagement with individual citizens is covered by actions 21 and 22. The following section covers engagement with organisations via working groups.

Working groups

Discussion between the Climate Change Officer and other CDC officers has shown that there are already a number of partnerships, working groups and fora that could be channels through which the carbon reduction agenda could be pursued. The Manhood Peninsula Partnership Project Officer and the Rural Towns Initiative Officer have both identified groups of organisations on the Manhood peninsula and in Midhurst and Petworth that have carbon reduction projects that they would like to progress and would be likely to welcome assistance through technical knowledge and information on funding sources. There are doubtless other groups, already in existence and with carbon reduction projects that they wish to progress, that might welcome some technical/funding information input. Therefore, it is proposed that the Climate Change Officer continues discussions with other officers to identify these groups and investigate how best to support their carbon reduction actions.

However, some types of project would be best progressed by new working groups organised by theme. This is similar to an approach taken by Essex County Council which has established special interest groups that support its Climate Action Commission. Where suitable groups do not exist, CDC could use its contacts to set up new working groups.

CDC officers would convene these groups initially, which would be open to representatives of any organisation with an interest in the District. However, the groups should become self-sustaining in terms of setting up their own meetings and agendas. The intention is that they are fora that enable people to meet like-minds and develop solutions themselves with CDC providing technical input, information on funding opportunities and networking help.

Participants in existing or new groups could be:

- Businesses & business organisations
- Public sector services (health services, academic institutions)
- Third sector (fuel poverty, debt advice, local food co-ops)
- Other local authorities (parish councils, West Sussex County Council, neighbouring district councils)
- Special interest groups (environmental, social justice)

- Organisations representing particular demographic (youth, people with mobility difficulties)

A key feature is that the working groups will be ongoing to develop carbon mitigation actions, refine them in light of new events, success and failure. Oxford City Council's deputy leader (Tom Hayes) found that Oxfordshire County Council listened to its carbon reduction proposals more closely as its close community engagement gave its voice greater weight and legitimacy. This has helped to sway county council decisions that affect the district.

Some initial work has been done to identify issues that would benefit from the establishment of a new working group. Discussion with Environmental Protection Manager Simon Ballard has led to the tentative conclusion that the theme of transport would benefit from the setting up of a dedicated group that could, for example, look at expansion of car clubs and technical support for organisations considering electric vehicles for business use.

In contrast, initially a group working on domestic energy efficiency and renewable energy generation was considered. However, research showed there were already several initiatives underway and the most effective course of action would be to support them (see the section on Domestic Retrofit below).

Tree-planting will play a major role in reducing the area's emissions. Other habitats such as wetland can also be established to act as carbon sinks. However, land-owners and land managers may be uncertain how to proceed due to health and safety and biodiversity considerations and a lack of knowledge of the wide range of funding sources available. In response Chichester City Council organised a Tree Summit for this year. The Tree Summit had to be cancelled due to Covid-19. It may be re-scheduled and could provide a springboard for an on-going working group for carbon reduction through land use change, subject to the agreement and collaboration with the organisers.

Renewable energy generation in the district would be a third working group. However, its establishment would have to be scheduled to match limited resources.

To summarise the steps that characterise action 3a:

- Support existing partnerships/working groups with suitable carbon reduction projects.
- Establish a transport working group to enable organisations to collaborate to reduce transport emissions.
- Support Chichester City Council on its Tree Summit initiative
- Establish a renewable energy generation working group when time resources permit.

Whether existing groups are supported by Climate Change Officer or a new group established, reporting routes need to be created to capture the outcomes of carbon reductions actions so we can monitor progress. This is a recommendation from Stroud District Council, which is frequently upheld as a model on action on climate change.

Domestic retrofit

Domestic retrofit can encompass both insulation and renewable energy installations. It can be split into householders that are able to pay for home improvements and householders that need financial support to do so and indeed may be in fuel poverty.

CDC is working with energy providers to [address fuel poverty](#) and [those at risk of cold homes](#). There is the [Chichester Warm Homes initiative](#) and [other schemes](#) with specialist home energy advisors to help householders on low incomes or with disabilities to navigate the schemes available. Furthermore, Solar Together is a Sussex-wide scheme to bulk-buy PV panels to make it cheaper for householders and small businesses to install them on their roofs. It is scheduled to open to Chichester district householders and small businesses wanting to register interest from September 2020. [Warmer Sussex](#) is an ongoing scheme to help householders improve the energy efficiency of their homes.

Looking further forwards, the CDC Housing Standards Manager has drafted the Housing Standards Financial Assistance Policy with input from the Climate Change Officer. The aim of the policy is to reduce fuel poverty and excess cold in homes in the district. Sometimes this can lead to increased fuel use and hence greenhouse gas emissions. Therefore the goal is to identify options that do not lead to increased emissions. To co-ordinate this work, a Fuel Poverty and Sustainability Project Group will be established to deliver targeted action to tackle those parishes with the highest levels of excess cold and fuel poverty, and significantly reduce homes with a low Energy Performance Certificate rating of F and G occupied by fuel poor households. This policy is due to go to Cabinet in November 2020.

The actions that fall under this heading are:

- Climate Change Officer to support Housing Standards Manager to deliver the finalised Housing Standards Financial Assistance Policy (action 3c).
- Public relations to promote the Solar Together PV scheme to householders and small businesses (action 3b).

Taxi and private hire licensing

Climate Change Officer will support the Communication, Licensing and Events division in reducing greenhouse gas emission from taxis and private hire vehicles through the implementation of new statutory standards on these vehicles (action 3d).

Engagement already conducted

West Sussex County Council sustainability team including energy services, Warmer Sussex home retrofit programme, Stroud District Council's climate change officer, easit, Chichester City Council, EcoChi, Extinction Rebellion, Community Energy South, Greater South East Energy Hub, West Sussex Fuel Poverty Partnership, Scottish and Southern Electricity Networks, Giki-Zero, Chichester and District Cycle Forum.

Action 16 Tree-planting on non-CDC land

A document has been written identifying possible funding sources for tree-planting and has been circulated to parish councils and interested parties. A working group could be established to support organisations, especially land-owners and managers, interested in planting trees on their land – see action 3. CDC should also

support organisations that wish to seek funding to establish a tree nursery to enable a rapid expansion of UK-grown trees to reduce disease risk of importing trees.

Engagement already conducted

Chair of Chichester city tree wardens, Woodland Trust, West Sussex County Council arboriculturist, Chichester City Council.

Action 18 Trees on Strategic Wildlife Corridors

A document has been written identifying possible funding sources for tree-planting, which has been passed to the officer overseeing the SWC project for use with landowners within the SWCs who are interested in tree-planting.

Action 17 Nutrients

Where land is acquired in Chichester District for the mitigation of nutrient inputs into the harbours, CDC will work with Natural England and the South Downs National Park Authority to ensure that this land is, wherever possible, planted to woodland or used for wetland creation. This will both ensure that mitigation land does not revert to agricultural use in the long term and that the land acts as a carbon sink.

Action 19 Cycling & walking initiatives

The Environmental Protection team has taken this forward through the production of CDC's draft Local Cycling and Walking Infrastructure Plan (LCWIP), which will be open for consultation in September 2020 (Action 19a). Further to this, WSCC's (draft) LCWIP includes the two strategic routes Chichester to Emsworth (known as the Chemroute) and Chichester to Selsey (known as the Selsey Greenway/commuter route). Highways England has announced that it will build Chemroute, subject to funding availability and other caveats.

Environmental Protection team is also working in partnership with WSCC on WSCC's programme of improvements, drawn from the West Sussex Walking and Cycling Strategy and rolled out via WSCC's Sustainable Transport Package and Local Transport Improvement Plan.

Further enhancements have also been achieved through post-Covid19 recovery work i.e. the road space reallocation project's pop-up cycle lanes. As employees started to return to work, businesses were reminded of the Cycle to Work schemes that encourage cycling and e-biking and the green travel scheme easit through CDC's eBiz newsletter. The Wellbeing team at CDC also gave a fresh push to the council's own Cycle to Work scheme for employees.

Action 20 Electric vehicle charge points

Eighteen electric vehicle charge points have been installed across CDC car parks. WSCC's contract intends a wider roll-out of EV charge point infrastructure. CDC has a policy of procuring/replacing its cars and Light Duty Vehicle vans with electric vehicles unless there is a significant business case not to. This boosts demand for the charge points. During the refurbishment of Westhampnett depot, ducting was installed under the new surfaces to facilitate the installation of electric vehicles charging points to service future electric vehicles in the Chichester Contract Services' fleet.

Action 21 Behaviour change

The West Sussex Climate Change Pledge is run by West Sussex County Council (WSSC) has been under review. There will be a new communications plan which will support the county council's climate change strategy. This strategy was approved by WSSC in July 2020. WSSC has said that it would be keen to engage and involve the district councils in the new communications plan. However, there is still potentially a role for CDC to use its communication channels to support or augment whatever WSSC does.

CDC's communication division has advised that Spring 2021 would be the earliest time for the launch of a public campaign to encourage low carbon lifestyles. In investigating the plan, the Climate Change Officer encountered several instances of people being unaware of initiatives that were closely related to their professional and personal areas of interest. Therefore, one simple effective step would be to publicise existing initiatives. The Wellbeing team has agreed to use their expertise in helping people to make behavioural changes around health issues to advise on framing messages.

- a) Promote existing schemes e.g. Warmer Sussex, Your Energy Sussex, Solar Together, the CDC tree donation option to ensure they are widely known.
- b) Ask groups such as EcoChi, Transition Chichester, Tuppenny Barn and Extinction Rebellion if they would be willing to assist with public engagement to on behavioural change. Taking EcoChi as an example, members are involved in a wide range of key groups such as the Women's Institute, ChiCycle and other walking and cycling groups.
- c) Use existing social media platforms such as Facebook and Twitter to have conversations around the themes listed above. Instagram is possibly the best software application through which to reach young people and some of the groups listed above may be willing to use their Instagram accounts to raise awareness.
- d) Identify websites or mobile phone applications that can be used by individuals to understand their carbon footprint and how it can be reduced.
- e) Launch a public pledge page where individuals and organisations promise to make carbon savings. Try to capture the level of reductions that people commit to making. If the council uses its own site, the webpage needs to be:
 - Easy to find from the homepage
 - Attractive and inspiring
 - Interactive

Action 22 Citizens' Jury

The Initial Climate Emergency Action Plan has this item as:

Evaluate benefits and costs of setting up a Climate Commission. A commission would bring together major public and private sector organisations to:

- Co-ordinate and monitor actions that contribute to District-wide carbon reductions.
- Share best practice and innovative project ideas

- Work together to improve sustainable transport networks, (including bus services , park and ride, car-share schemes and car clubs)

2022 is given as the date of implementation.

However, it is proposed to replace the Climate Commission with a Citizens' Jury to be held in 2021 for the following reasons. The Climate Commission was intended to bring together organisations to work on carbon reduction. There are a number of existing fora that can be used to do that as outlined in Action 3. Where there are gaps in engagement, targeted working groups of organisations can be established much more quickly than an all-encompassing commission. Furthermore, Chichester MP Gillian Keegan is holding a Climate Change Conference on 4 September 2020 aimed at constituents and groups that have expressed an interest in climate change. Therefore, there would be some overlap with that event.

The Citizens' Jury would take a different approach, complementing the other initiatives. It would be comprised of a dozen or so members of the public selected to represent the demographic profile of the citizens of Chichester district. They will call on expert evidence over 2-3 days to help them formulate detailed recommendations that can inform the decision-making of district councillors. Participants invest significant time in the exercise. They do not volunteer to participate because of an interest in climate change. Instead they are asked to participate because they represent particular sections of the community by virtue of their own characteristics e.g. age, income, ethnicity, etc. Therefore they are reimbursed for their time and their care costs if they have caring responsibilities as would be expected in a group that represents a cross-section of the community. For further information, see <https://www.climateemergency.uk/blog/citizens-assemblies-jurys/>
The Community Project and Partnership Manager is willing to help to draft terms of reference for the process.

Engagement already conducted

EoChi, Extinction Rebellion

Supporting Technical Information

Greenhouse Gas (GHG) emissions inventory¹ for Chichester District Council

Organisation information

Chichester District Council is a lower-tier local authority with its main offices at 1 East Pallant, Chichester, West Sussex, PO19 1TY.

Reporting period

01/10/2018 to 30/9/2019

Reasons for change in emissions

This is the first GHG inventory that CDC has reported on since y/e 2013. Up to 2013, it was mandatory for local authorities to report their GHG emissions, but this requirement lapsed and CDC ceased to estimate its GHG emissions in order to reduce costs during the period of austerity following the Global Financial Crisis. The reduction in scope 1 and scope 2 emissions between y/e 2013 and y/e 2019 is due in large part to the leasing of Westgate and Grange leisure centres to Everyone Active. They therefore pass out of the CDC's operational control and move from scope 1 and scope 2 to scope 3. These emissions have not yet been quantified.

In 2019 CDC passed a motion declaring a climate emergency. It committed itself to working towards area-wide emission reductions (covering all organisations and individuals in the district) of 10% year-on-year to 2025. It committed to setting a GHG emissions reduction target for itself and consequently the practice of estimating its GHG emissions has resumed.

Quantification and Reporting Methodology

We have followed the approach in the UK government's Environmental Reporting Guidelines dated March 2019 and the 2019 UK Government Conversion Factors for Company Reporting. We have also used the GHG Protocol Value Chain (Scope 3) Standard, but we are not able to report on all categories that may be relevant. Some adjustment may be to the emission figures following further investigation into leased assets and PV and solar thermal generation at East Pallant House, but the change is not expected to be significant.

Organisational boundary²

We have used the operational control approach. We have included all services delivered either directly by the Council or under contract to it via Chichester Contractual Services.

This encompasses fuel and electricity use at:

- The council's headquarters at East Pallant House which has solar electric (PV) and solar thermal arrays
- Westwood House homeless shelter
- Novium museum which has a wood pellet-fuelled boiler

¹ Inventory is the technical term for a footprint.

² There are different ways to draw a line around organisations – its boundary. We have used operational control so that we are accounting for emissions from activities over which we have day-to-day control.

- Car parks
- Westhampnett depot
- Other smaller buildings
- Refuse fleet
- Other council-operated vehicles

Operational scopes

We have estimated our scope 1, 2 and certain scope 3 emissions.

Scope 1 ³ emissions in tCO ₂ e ⁴	2018-2019	Excluded emission sources	% of activity data ⁵ that is estimated	2012/2013
Gas consumption	105	Oving Jubilee Hall & 80 High Street, Selsey (aka Selsey Fire Station). Both used as Community Warden bases ⁶ .	0	972
Fuel oil	0	Thought to be none – to be confirmed.	0	56
LPG	43			
Fuel emissions for vehicles	1,179	None	0	1,157
Fugitive ⁷ emissions of refrigerants used in air con.	0	Thought to be none – to be confirmed.	0	Was not estimated due to cost.
TOTAL SCOPE 1	1,327			2,185
Scope 2⁸ emissions in tCO₂e				
Purchased electricity	437	Oving Jubilee Hall & 80 High Street, Selsey.	0	1,286
TOTAL SCOPE 2	437			1,286

³ For those organisations using the operational control approach, scope 1 emissions are from activities or emission sources that we control day-to-day. They occur directly from those activities or sources i.e. a vehicle exhaust pipe.

⁴ tCO₂e stands for metric tonnes of carbon dioxide equivalent. The global warming caused by gases is standardised to the warming caused by one unit of carbon dioxide hence carbon dioxide equivalent.

⁵ Activity data is the data used to estimate emissions e.g. how much fuel we have used, how many miles we have driven for business.

⁶ CDC has no obligation to pay energy bills for these sites.

⁷ Fugitive is the technical terms for emissions from leaks or accidental venting of equipment.

⁸ Scope 2 and scope 3 emissions are indirect emissions. They occur as a result of activities over which we do not have control e.g. a power station generating electricity or at the paper mill of the company making CDC stationery. However, we have influence over these emissions which is why they are reported. Scope 2 is a special category of indirect emissions covering electricity, heat, steam and cooling that has been acquired (usually purchased).

Scope 3 emissions in tCO₂e				
Purchased goods & services	We have not tried to quantify these emissions yet.			
Capital goods	We have not tried to quantify these emissions yet.			
Fuel- and energy-related activities not included in Scopes 1 & 2	334			102 (Indirect emissions from electricity purchased)
Upstream transportation & distribution	We have not tried to quantify these emissions yet.			
Waste generated in operations	We have not tried to quantify these emissions yet. Would include green waste from parks.			
Business travel	46	Employees who use their own vehicles for business travel but do not claim the mileage allowance. Employees using rail. This is infrequent.	11% is estimated. This is due to CDC not having the gCO ₂ /km from the employee's V5 vehicle document.	60
Employee commuting	We have not tried to quantify these emissions yet.			
Upstream leased assets	Under investigation.			
Downstream leased assets	Under investigation.			
Downstream transportation & distribution	Not relevant.			
Processing of sold products	Not relevant.			
Use of sold	Not relevant.			

products				
End-of-life treatment of sold products	We have not tried to quantify these emissions yet. They would include emissions from trade waste collected by CCS.			
Franchises	Not relevant.			
Investments	We have not tried to quantify these emissions yet.			
Biogenic emissions	0.31			
Intensity metrics				
Scope 1, scope 2 & selected scope 3 emissions per district resident (tCO ₂ e per capita)	0.02			No intensity metric given.
Scope 1, scope 2 & selected scope 3 emissions per unit area (tCO ₂ e per km ²)	2.64			No intensity metric given.

Gross and net emissions

All in tCO ₂ e or tCO ₂ e	2018-2019	2012-2013
Gross emissions (S1, S2 & selected S3)	2,144	3,633
Exported renewable electricity reduction	Under investigation – expected to be negligible.	0
Offsets	0	0
Woodland Carbon Units	0	0
Net emissions (S1, S2 & selected S3)	2,144 less reductions for exported renewable electricity	3,633

Base year

The base year is 01/10/2018 to 30/9/2019

We have chosen this period as it is:

- the year of the council's climate emergency resolution
- fits with the electricity and gas contract periods
- the subsequent period will show the effect of Covid 19 lockdown and any carbon reduction initiatives we put in place subsequent to the declaration of a climate emergency.

Our base year recalculation policy is to recalculate our base year and the prior year emissions for relevant significant changes which meet our significance threshold of 5% of base year emissions.

Target

Our target is a 10% year-on-year reduction from the 2018-2019 base year, covering scopes 1 and 2 and Scope 3 business travel and fuel- and energy-related activities not included in

Scopes 1 & 2 until year-end 2025. As we have just set our target, we do not have any progress to report. Chief executive Diane Shepherd is responsible for achievement of this target.

Intensity Metrics

Our chosen intensity metrics are scope 1, scope 2 and selected scope 3 emissions per resident in the district (tCO₂e per district resident) and emissions per unit area (tCO₂e per km²). The number of residents within the district is a key factor in determining the scale of our activities and hence our emissions. The acreage of the district is a factor in determining the how we deliver those services i.e. the extent to which services can be centralised.

Electricity & heat data

Electricity purchased for consumption (MWh)	1,710
Green tariffs or other renewable/low-carbon contractual instruments used	None
Renewable electricity (in MWh) generated in council-operated plants that was exported to the grid	Electricity is generated via the photovoltaic panels on East Pallant House roof, but data on the quantity exported to the grid is not yet known
Was this backed by Renewable Energy Guarantees of Origin (REGOs)?	Not known
Heat generated from council operated sources (in MWh).	CDC has a solar thermal array generating hot water on East Pallant House roof. We do not have data on the quantity generated.

This is the end of the GHG emissions inventory.

Area-wide GHG emissions data from SCATTER

The data in the table below is taken from SCATTER and shows how the area's GHG emissions would change if a 10% reduction was made every year until 2025.

Table 4 10% year-on-year reduction in area-wide target emissions

Year	Emissions tCO ₂ e
2019	644,924
2020	580,431
2021	522,388
2022	470,149
2023	423,134
2024	380,821
2025	342,739

SCATTER allows the user to select GHG emission reduction actions to see their effect on emissions modelled for their local authority area. The table below shows those selected for Chichester district to come close to meeting the area-wide target.

Table 5 Actions selected from the SCATTER tool to meet the area-wide target

Ambition level selected out of levels available ⁹	Sector	Title	Description
4/4	Agriculture and Land Use	Agriculture and land use - Forestry	24% increase in forest cover by 2030.
2/4	Agriculture and Land Use	Agriculture and land use - Land Management	By 2050, 3% decrease in grassland, 1% decrease in cropland; increase in the coverage of settled land.
3/4	Agriculture and Land Use	Agriculture and land use - Livestock Management	0.2% annual reduction in livestock numbers
4/4	Agriculture and Land Use	Agriculture and land use - Tree planting	Tree-planting to increase current coverage by 30% by 2030; from 2030-2050 further increase of 20%.
4/4	Domestic Buildings	Domestic lighting, appliances, and cooking - Demand	By 2050, domestic lighting and appliance total energy demand has dropped to 27% of current levels.
2/2	Domestic Buildings	Domestic lighting, appliances, and cooking - Electrification	Small reductions in efficiency of domestic cooking. Proportion of cooking which is electric increases to 100% in 2050.
4/4	Domestic Buildings	Domestic space heating and hot water - Demand	Hot water demand per household reduces by 8% every 5 years
3/4	Domestic Buildings	Domestic space heating and hot water	From 2021, 30% of all new houses per year are built to 2013 building regulations; 40% to AECB standard; 30% to passivhaus standard.

⁹ The higher the number the higher the emission level.

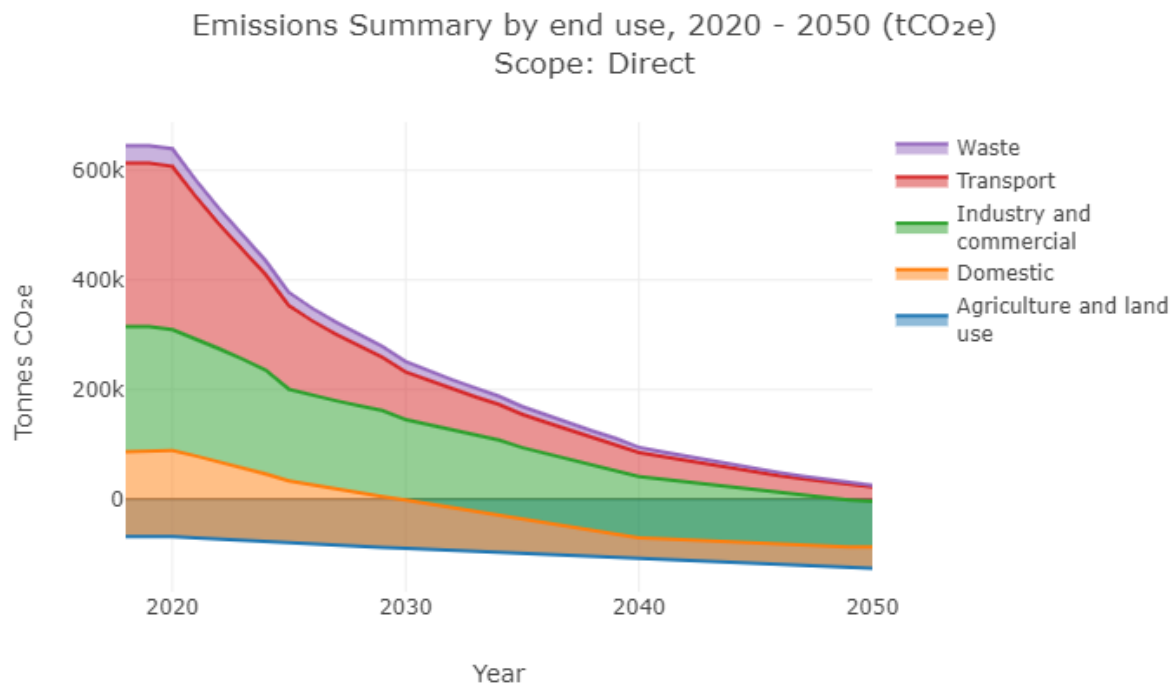
Ambition level selected out of levels available ⁹	Sector	Title	Description
		- New build	
4/4	Domestic Buildings	Domestic space heating and hot water - Retrofit	By 2050, 10% of current stock is retrofitted to a medium level; 80% deep retrofit.
8/13	Domestic Buildings	Domestic space heating and hot water - Technology	By 2050, 50% of heating from heat-pumps (air and ground-source); the rest from community scale CHP
2/4	Energy Supply	Biomass/Coal power stations	Solid biomass generation increases by 50% in 2025, dropping off after that; Coal phase-out follows trajectories from the National Grid's Two Degrees scenario.
1/4	Energy Supply	Hydroelectric power stations	Hydroelectric power generation grows to 19 MWh per hectare inland water in 2030; 20 in 2050.
3/4	Energy Supply	Offshore wind	Large-scale onshore wind generation grows to 3.8 MWh per hectare in 2030; 5.9 MWh in 2050.
4/4	Energy Supply	Onshore wind	Large-scale onshore wind generation grows to 1.9 MWh per hectare in 2030; 2.2 MWh in 2050.
3/4	Energy Supply	Small-scale wind	Small-scale wind grows to 2.6 MWh per hectare in 2030; 2.9 in 2050 (from a baseline of 1.2 MWh per hectare.)
4/4	Energy Supply	Solar PV - Large	Large-scale solar generation grows to 200 kWh per hectare in 2030; 400 in 2050 (from a baseline of 50 kWh per hectare.)
3/4	Energy Supply	Solar PV - Small	Local solar capacity grows, generating equivalent to 1550 kWh per household in 2030; 3000 in 2050 (from a baseline of 400 kWh per household.)
3/4	Energy Supply	Tidal and Wave	For areas with wave / tidal power, 100-fold increase by 2030, 700-fold increase by 2050.
4/4	Industry and Commercial	Commercial heating and cooling - Demand	In 2050, commercial heating, cooling and hot water demand is 60% of today's levels

Ambition level selected out of levels available ⁹	Sector	Title	Description
8/13	Industry and Commercial	Commercial heating and cooling - Technology	By 2050, 50% of heating from heat-pumps (air and ground-source); the rest from community scale CHP
4/4	Industry and Commercial	Commercial lighting, appliances, and catering - Demand	Commercial lighting & appliance energy demand decreases 25% by 2050.
2/2	Industry and Commercial	Commercial lighting, appliances, and catering - Electrification	By 2050, 100% of commercial cooking is electrified.
4/4	Industry and Commercial	Industrial processes - Efficiency	Industrial electricity consumption is 50% of total energy consumption by 2035; 65% by 2050. Output falls by 2% every year for non-heavy industry.
3/3	Industry and Commercial	Industrial processes - Output	Reductions in process emissions from all industry: general industry reduces process emissions at a rate of 4.5% per year. Chemicals emissions reduce 1% per year; metals 0.7% per year, and minerals 0.8% per year.
4/4	Transport	Domestic freight	By 2050, 22% decrease in distance travelled by road freight; 75% increase in efficiency. In waterborne transportation, 28% increase in use of waterborne transport.
4/4	Transport	Domestic passenger transport - Demand	25% reduction in total distance travelled per individual per year by 2030.
4/4	Transport	Domestic passenger transport - Modal shift	Average modal share of cars, vans and motorbikes decreases from current national average 74% total miles to 38% in 2050.
4/4	Transport	Domestic passenger transport - Technology	Cars and buses are 100% electric by 2035, rail is 100% electric by 2030. Average occupancies increase to 18 people per bus km (from 12), 1.65 people per car-km (up from 1.56), and 0.42 people per rail-km (from 0.32).
1/3	Transport	International aviation	Department for Transport "central" forecast for aviation. The "Central" forecast represents the DfT base-case. For reference see Pathways

Ambition level selected out of levels available ⁹	Sector	Title	Description
			Methodology.
1/4	Transport	International shipping	By 2050, 48% increase in fuel use at UK ports.
4/4	Waste	Volume of Waste & Recycling - Recycling	65% recycling, 10% landfill, 25% incineration achieved by 2035, recycling rates increasing to 85% by 2050
4/4	Waste	Volume of Waste & Recycling - Reduction	Total volume of waste is 61% of 2017 levels by 2040.

The figure below shows the effect of the actions selected in Table 5 in graphical form.

Figure 1 Emission reductions needed to achieve area-wide target – modelled in SCATTER



Although the area-wide target runs until 2025, the graph above continues until 2050 because SCATTER has been designed to map pathways to the government’s target of net zero at 2050. Forestry and grassland within the district act as carbon sinks, sequestering carbon dioxide from the atmosphere, so are shown as negative figures below the x-axis. Therefore the “land use” figures act to “pull” the top line of the graph downwards the x-axis. Although the pathway has been designed with the 2025 target in mind, it would take the district close to net zero in 2050 with estimated emissions at 25,597 tCO₂e in that year.

While it is encouraging that achieving the 2025 target could lay the groundwork for meeting the net zero carbon in 2050 target, please note the following. The renowned Tyndall Centre for Climate Change Research has created a [tool](#) to translate the UN Paris Agreement (equity principals and goal of limiting global temperature rise to well below 2 degrees Centigrade and pursuing a 1.5 degrees Centigrade target) to the UK carbon budget. The aim of the tool is to help UK local authorities see what the Paris Agreement would mean for their areas in terms of a maximum budget of carbon dioxide that can be emitted over a period of years and the goals still be met. Carbon dioxide persists in the atmosphere, so the sooner it is emitted, the longer it has to warm our planet¹⁰. Tyndall has taken this into account. As yet, Tyndall and SCATTER’s work is not integrated. However, as a rough estimate our area would significantly overshoot the Tyndall figure (see Table 6).

¹⁰ Stopping a source of carbon emissions now, in 2020, does as much for the stock of carbon in the atmosphere as stopping a source 30 times as large in 2050 (Association for Public Service Excellence)

Table 6 Comparison of Tyndall carbon budget and SCATTER figures

	Tyndall	SCATTER
Time period	2020-2100	2020-2050
Emissions unit	tCO ₂	tCO ₂ e (i.e. includes greenhouse gases in addition to CO ₂).
Emission sources	CO ₂ emissions from energy uses only	All sources except industrial installations. I have also excluded waste which is largely processed outside the district ¹¹ .
Figures	4,700,000	8,725,563

Our area is a significant sink or store of carbon dioxide through land use in the district, which would reduce the difference as this is not factored into the Tyndall figures. Once Tyndall and SCATTER become integrated, it should be possible to understand the implications of the Tyndall budget better. For the moment, the point to make is that the area needs to act quickly to introduce its chosen carbon reduction actions.

A further point to note is that the SCATTER figures differ from the Department of Business, Energy and Industrial Strategy (Beis) local authority figures that are published annually. The differences are summarised in the following section.

Differences between Scatter and Beis figures

SCATTER uses Beis data augmented with other data sources. It therefore differs from the dataset called LACO2 produced by Beis. For example, LACO2 only includes carbon dioxide while SCATTER includes other greenhouse gases. This will increase its area-wide figures. On the other hand, SCATTER excludes the emissions associated with large industrial installations. This exclusion does not make much difference to Chichester's area emissions, which has had very few emissions in this category. The figures are therefore quite close: Beis's 2017 figure was 644,000 tCO₂ while SCATTER's is 644,924 tCO₂e. Note there are two datasets within the Beis local authority data: the full dataset and the subset data. The full dataset has been used here. The subset data excludes sources over which local authorities are deemed to not have direct influence. It excludes large industrial installations (which are insignificant in Chichester district), diesel railways, motorways (of which there are none) and Land Use and Land Use Change and Forestry (LULUCF). Chichester District Council does consider that it has influence over LULUCF as it has included tree-planting on non-CDC land in its Climate Emergency Initial Action Plan. The subset data was previously used to report progress against National Indicator 186 under the Department for Communities and Local Government's (CLG's) Local Area Agreements which have since ceased.

¹¹ Domestic waste is taken from the CDC depot at Westhampnett to a material recycling centre at Ford in Arun district. General waste is taken to a site near Horsham where it undergoes mechanical and biological treatment and is either landfilled or made into refuse derived fuel. SCATTER assumes waste from Chichester district is landfilled within the district boundaries so these figures have been excluded from the total.