

The Somerset 2030 Carbon Neutral Target - Local Authority Actions

Context

Somerset County Council, Mendip District Council, South Somerset District Council, Sedgemoor District Council and the newly formed Somerset West and Taunton Council have all declared a climate emergency in 2019 and have committed to Somerset and/or their districts becoming carbon neutral by 2030. The UK Parliament declared a climate emergency in May 2019. The government's advisers on climate change, the Committee on Climate Change, has recommended that the UK moves to a statutory 2050 target for climate neutrality, and, in June 2019, the government amended the 2008 Climate Change Act to confirm that change. In July 2019 the Committee on Climate Change reported that the UK was not on course even to reach the previous 80% target and recommended a suite of urgent policy changes for climate mitigation and adaptation.

Somerset Climate Action Network ("Somerset CAN") is a new organisation bringing together climate expertise, groups and individuals from across the county. Somerset CAN aims to work in the spirit of partnership with local authorities and other key players to increase the impact of actions to drive down carbon emissions across Somerset. By this means it aims to help create an exemplar county showing how a low-carbon lifestyle and economy can work and indeed, thrive.

This document draws on a collaboration event convened by Somerset CAN on 2nd July 2019 to gather the responses of climate groups from across the county so the community can present a coherent approach to responding to the climate emergency.

Purposes of this document

1. Start to identify potential actions of Somerset local authorities that are needed to reach the Somerset 2030 carbon neutral target as committed in the 2019 Climate Emergency declarations.
2. Identify local authority departments and areas of influence that can lead in each sector.

The document is intended primarily as a focus of discussion between the Somerset Climate Action Network, and Somerset local authorities – Somerset County Council and the four District Councils.

This document does **not**:

- Calculate the carbon emissions reductions or quantity of greenhouse gas removals of each action.
- Estimate investments required or financial savings.
- Explore potential targets for each measure.
- Set out additional actions required to meet the 2030 target that are needed from central government, Town and Parish Councils, the private sector, communities or individuals that are outside of the influence of local authorities.
- Identify which Local Authority tier has the powers to implement or influence each action.
- Include measures where the technology is unlikely to be available to have an impact on emissions or removals before 2030.
- Include climate change adaptation measures (required to protect society from the inevitable damaging effects of global heating).

Local Authority Areas of Influence

The following parts of local authorities are identified as having influence on carbon emissions or removals:

- Planning
- Highways/ car parks
- Licensing
- Waste
- Education
- Health/ social care
- Procurement/ Supply Chain

In addition, local authorities have key roles in removing barriers to positive climate change actions that others can take, providing funding support for climate-related projects and promoting behaviour change.

Table 1 identifies 24 climate change measures and the role that local authorities can play in each¹. It is suggested that local authorities can influence 22 of these. Many of the measures will require co-ordinated effort across a number of authority functions. Over 70 actions in total can contribute to achieving the 2030 target.

The extent of local authority influence on each measure is variable, and provisionally assigned to high, medium and low categories in Table 2. This table also suggests which other sector² is potentially the most influential to ensure that the measure is fully delivered.

While there is no attempt in this paper to quantify the potential emissions reductions achievable by each measure, a provisional assessment of potential is assigned to each using “high”, “medium” and “low”, in Table 2.

Most of the measures listed have significant co-benefits for people and nature, contributing to many other public sector objectives such as health and wellbeing. The principal links to physical and mental health, employment, nature and addressing inequality are identified in Table 2.

An indicative emissions pathway to achieving the 2030 Somerset climate neutral target is shown in Annex 1.

While it is beyond the scope of this document to discuss the detail of targets, we note that the exact nature of the 2030 target needs definition. This is a complex subject – see the glossary in Annex 2 for explanation of some relevant technical terms. We suggest that the target may best be measured through territorial emissions of CO2 equivalent, while scoping measures on the basis of consumption-based emissions. This approach would be broadly aligned with data availability and national reporting, while also taking account of the important roles of methane and nitrous oxide, and the need to reduce consumption of carbon-intensive imported products.

¹ Measures are grouped by emissions sectors as used in government emission statistics, with the addition of “Community”.

² Farming is included in the business sector in this table.

Table 1 Climate Action Measures and Local Authorities.

#	Emissions sector	Measure	Can Local Authorities Influence?	Local authority department/ area of influence									
				Planning	Highways/ car parks	Licensing	Waste	Education	Health/ social care	Procurement/ Supply Chain	Removing barriers	Funding	Behaviour promotion
1	Homes	Energy efficiency - new homes	Yes	✓									
2		Energy efficiency - retrofit homes	Yes	✓							✓	✓	✓
3		Renewable energy - homes	Yes	✓									
4	Community	Renewable energy - community	Yes	✓				✓	✓		✓	✓	
5	Industry/ Commercial	Renewable energy - commercial/ industrial	Yes	✓									
6		Energy efficiency - non-residential buildings & infrastructure	Yes	✓	✓			✓	✓		✓	✓	✓
7		Oppose fracking and other harmful extraction including peat	Yes	✓		✓							
8		Reduce consumption of energy-intensive products	Yes			✓		✓	✓	✓			✓
9		Increase production of low-energy sustainable products	Yes							✓			
10		Zero waste economy - refuse, reduce, re-use, recycle	Yes	✓				✓	✓	✓	✓	✓	✓
11	Transport	Electric cars replacing petrol/diesel	Yes	✓	✓						✓		✓
12		Electric/ hydrogen fuelled trains, buses, taxis and community transport	Yes	✓		✓		✓	✓	✓		✓	
13		Electric Vehicle infrastructure	Yes	✓	✓			✓	✓			✓	✓
14		Improved public transport to reduce car travel demand	Yes		✓								
15		Walking and cycling infrastructure to reduce car travel demand	Yes	✓	✓			✓			✓	✓	✓
16		Shared transport e.g. EV car clubs	Yes		✓							✓	✓
17	Greenhouse Gas Removals	Woodland and tree planting	Yes	✓							✓	✓	
18		Agro-forestry	Yes	✓							✓	✓	
19		Soil carbon sequestration	No										
20		Wetland and coastal habitats restoration	Yes	✓							✓		
21		Perennial crop biofuels production	No										
22		Transition to plant-rich diets	Yes					✓	✓	✓			✓
23		Local food growing and distribution	Yes					✓	✓	✓	✓		✓
24		Building with biomass	Yes	✓						✓			

Table 2 Extent of Influence, Other Sectors, Target Contributions and Co-benefits of Measures

#	Emissions sector	Measure	Extent of LA influence	Other sector most influential	Potential contribution to target	Co-benefits			
						Health	Employment	Nature	Addressing Inequality
1	Homes	Energy efficiency - new homes	High	Business	Medium				✓
2		Energy efficiency - retrofit homes	Low	Central government	High	✓	✓		✓
3		Renewable energy - homes	High	Business	Medium		✓		✓
4	Community	Renewable energy - community	Medium	Individuals/ Community	Medium		✓		
5	Industry/ Commercial	Renewable energy - commercial/ industrial	Medium	Business	High		✓		
6		Energy efficiency - non-residential buildings & infrastructure	Low	Business	High		✓		
7		Oppose fracking and other high carbon extraction industries	High	Central government	Medium			✓	
8		Reduce consumption of energy-intensive products	Low	Individuals/ Community	Medium				
9		Increase production of low-energy sustainable products	Low	Individuals/ Community	Medium		✓		
10		Zero waste economy - refuse, reduce, re-use, recycle	High	Individuals/ Community	High		✓	✓	
11	Transport	Electric cars replacing petrol/diesel	Medium	Central government	High	✓		✓	
12		Electric/ hydrogen fuelled trains, buses, taxis and community transport	Medium	Business	Low	✓		✓	
13		Electric Vehicle infrastructure	Medium	Central government	High		✓		
14		Improved public transport to reduce car travel demand	High	Central government	Medium	✓		✓	✓
15		Walking and cycling infrastructure to reduce car travel demand	High	Individuals/ Community	Medium			✓	✓
16		Shared transport e.g. EV car clubs	Low	Individuals/ Community	Low	✓			✓
17	Greenhouse Gas Removals	Woodland and tree planting	Medium	Central government	High	✓		✓	
18		Agro-forestry	Low	Business	Medium	✓	✓	✓	
19		Soil carbon sequestration	Nil	Business	High				
20		Wetland and coastal habitats restoration	Low	Central government	Medium	✓		✓	
21		Perennial crop biofuels production	Nil	Business	Medium				
22		Transition to plant-rich diets	Medium	Individuals/ Community	Medium	✓	✓		
23		Local food growing and distribution	Medium	Individuals/ Community	Low	✓	✓		
24		Building with biomass	Medium	Business	Low				

Key Local Authority Measures

This section briefly describes key actions under each measure and gives examples from around the country where authorities have successfully taken action.

HOMES

1 Energy Efficiency - New Homes

Require higher standards than current national standards for new build, using powers granted to local authorities under the Planning and Energy Act 2008. Ideally all new homes and commercial properties should be zero carbon or even better built to Passivhaus standard.

Enforce building standards - enforce planning/building conditions to ensure all new builds are meeting the targets they were granted permission for.

2 Energy Efficiency – Retrofit Homes

Enforce minimum energy efficiency standards in private rented sector – Newham Council in London has pioneered the use of licensing to identify rented homes and ensure full cost recovery of proper regulation and enforcement of housing standards.

Help energy companies target fuel poor or vulnerable households with energy efficiency measures – the Government has produced guidance to allow local authorities to identify the fuel poor or vulnerable houses to energy companies. The energy companies then insulate these as part of their legal ECO obligations.

Retrofit council-owned properties - deep retrofit of all council-owned social housing, schools and other council properties to Energy Performance Certificate C or higher. This should include fitting eco-heating and developing heat networks where appropriate.

3 Renewable Energy – Homes

Require renewable energy such as solar thermal, PV or heat pumps – this needs to be done in local authority developments, but also private sector developments.

Develop district heating - map out and develop district heating, as long as it's from low carbon sources. Enfield Council has formed a company that aims to provide lower carbon heat and hot water to around 15,000 residents with an explicit aim to reduce greenhouse gas emissions.

COMMUNITY

4 Renewable Energy – Community

Identify areas suitable for community renewable energy in the local plan - the National Planning Policy Framework states that new onshore wind cannot be approved outside an area "identified as suitable for wind energy" unless it is a community-led scheme.

Explore forming a non-profit green energy company - Bristol City Council has formed an Energy Company (Bristol Energy) which aims to be in profit in 2021 with those profits invested in the city for energy efficiency.

Enable renewables on local authority assets / buildings – including discontinuing the current stop policy on solar PV on school roofs. This could be achieved for free via community energy co-ops.

Support the creation of a pan-Somerset community energy organisation.

INDUSTRY/ COMMERCIAL

5 Renewable Energy – Commercial and Industrial

Buy green energy –Local authorities are major energy purchasers. According to the LGA local authorities spend more than three-quarters of a billion pounds on energy alone.

Produce biogas - in the waste contract require the production of biogas from non-recyclable biodegradable waste. Biogas is an important contribution to decarbonising the gas grid.

Identify areas suitable for renewable energy, including solar arrays and onshore wind, in the local plan - the National Planning Policy Framework states that commercial new onshore wind can only be approved in areas “identified as suitable for wind energy”.

Divest from fossil fuels and invest in renewable energy projects – many local authorities have now chosen to divest their investments from fossil fuels, and invest in renewable energy projects instead.

Support large-scale renewable projects, such as tidal power, linking with the LEP and SW Energy Hub.

Promote free renewables for commercial / larger roofs via community energy and the private sector.

6 Energy Efficiency – Non-residential Buildings and Infrastructure

Reduce energy use in own estate and add renewable energy - the Re-fit Framework supported by the Government and the Local Government Association and used by some local authorities, such as City of Cardiff Council, uses an Energy Performance Contracting approach to deliver guaranteed energy efficiency improvements and energy production for their own estate.

Switch street lighting to well-designed and well directed LED lights – well-designed and well directed LEDs can prevent urban sky-glare whereas dimming at certain times both saves energy and is less harmful for nature.

7 Commit to opposing fracking and other fossil fuel extraction

Commit to opposing fracking and other harmful high-carbon extraction industries – both on council owned lands but also more widely. Greater Manchester combined authorities have committed to oppose any fracking and have embedded this opposition in their draft plan.

Commit to closing the Somerset peat extraction industry at an early date, while assisting with diversification into new clean industries.

8 Reduce consumption of energy-intensive products

Aim to win on sustainability – Nottingham City Council was named as ‘highly commended’ in the category for sustainable procurement in 2018. Sheffield City Council was also short-listed.

Prioritise procurement of low impact local goods and services. Preston City Council has revitalised its economy through focus on sustainable local procurement.

9 Increase production of low energy-intensive products

Support initiatives to replace energy-intensive products with sustainable alternatives, such as through the authorities’ procurement policy.

10 Zero waste Economy – Refuse, Reduce, Re-use, Recycle

Adopt circular economy waste policies – for example in local plans, minerals plans and waste management plans and contracts, as well as promoting community sharing, reuse and recycling. Explore opportunities for industrial ecosystems which enable businesses to use each other’s ‘waste’.

Zero waste to landfill or incineration - in waste disposal contracts ensure biodegradable waste, such as food waste and paper/cardboard, is recycled, composted or used to generate biogas.

TRANSPORT

11 Electric cars replacing petrol/ diesel

Ensure rapid transition of own fleet electric vehicles –the Energy Savings Trust can work with the council to undertake a ‘grey fleet’ review and support this transition. The grey fleet is vehicles that are required to be used by council staff but not owned by the council.

Ensure the Sub-national Transport Body strategy is in-line with carbon budgets – These and other groupings of local authorities are important for setting an agreed strategic direction and it is important that the strategies they write are in-line with the carbon budgets set by the Committee on Climate Change.

12 Electric/ hydrogen fuelled trains, buses, taxis and community transport

Require the use of electric buses - on bus subsidised routes require the use of electric or hydrogen buses (but only if the hydrogen has been made using electrolysis powered by renewable energy).

Require all taxis to be EVs through licensing.

13 Electric vehicle infrastructure

Put in place EV charging - at council owned locations, support community facilities and facilitate rapid rollout of private-charging facilities

Integrate the need to reduce car use into the local plan – this requires a range of measures, including: ensuring dense housing development with quality walking & cycling; restricted car parking provision; the provision of transport & delivery hubs to enable the use of cargo bikes and similar for deliveries; and support for climate adaptation measures such as green space and green architecture (e.g. roofs, walls, etc.).

14 Improved public transport to reduce car travel demand

Invest in quality public transport and support innovative developments.

15 Walking and cycling infrastructure

Invest in active travel infrastructure. Greater Manchester has committed to a ten-year plan to build 120km of segregated cycle routes, and over 1,400 new or upgraded cycle and pedestrian crossings.

Introduce work-place parking charges and/or ultra-low emission zones and/or a congestion charging area – the funds from these should be recycled to pay for active travel and public transport. London pioneered congestion charging and is now exploring road charging by the mile. Nottingham City Council pioneered a work-place charging levy.

16 Shared transport e.g. EV car clubs and demand-responsive driverless electric vehicles

Develop EV car clubs to reduce carbon emissions and improve air quality.

Trial infrastructure to support low carbon mobility services through approval of driverless electric vehicles, supporting the transition from private vehicle ownership, when the technologies and regulatory environment allows (2022/23?).

GREENHOUSE GAS REMOVALS

17 Woodland and tree planting

Use council land to drawdown carbon (e.g. tree planting) Some local authorities will have substantial land ownership. This land could be managed to offset carbon (e.g. through tree planting, soil carbon management, etc.). Managing green spaces alongside roads and in urban settings can also contribute.

Accelerate rates of woodland establishment. Afforestation of a small proportion of Somerset agricultural land is feasible and has many co-benefits, including biodiversity. This can be achieved by a combination of small-scale community plantings in and around towns and villages, with larger-scale woodland establishment by planting and natural processes in rural areas, especially around the upland fringes.

18 Agro-forestry

Support conversion of a proportion of agricultural land to agro-forestry. Agro-forestry should be a major component of greenhouse gas removals through change in land-use. Silvo-pastoral systems may be particularly suitable to the Somerset environment and landscape.

19 Soil carbon sequestration

(Local authorities may be unable to influence this important measure.)

20 Wetlands and Coastal Habitats Restoration

Work with partner organisations to support restoration of peatlands and coastal wetlands to increase their ability to store carbon. This also prevents carbon release through further degradation, often providing a number of other co-benefits. Successful existing Somerset projects have potential for expansion.

21 Perennial crop biofuels production

(Local authorities may be unable to influence this important measure.)

22 Transition to plant-rich diets

Increase the proportion of plant-rich foods in educational and care institutions under local authority influence.

23 Local food growing and distribution

Increase the proportion of locally-grown foods in educational and care institutions under local authority influence.

24 Building with biomass

Explore the scope to raise the requirement for timber-framed buildings. Using forestry materials in building extends the time of carbon storage of natural biomass and enables additional forestry growth.

References/ Sources

Committee on Climate Change (2018). Reducing carbon emissions. Annual report to government. This report is available online at www.theccc.org.uk/publications.

Committee on Climate Change (2019). Reducing UK emissions. 2019 Progress Report to Parliament. This report is available online at www.theccc.org.uk/publications.

Department for Business, Energy & Industrial Strategy (2019). UK local authority and regional carbon dioxide emissions national statistics (2019). Available online at <https://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics>

Friends of the Earth (2019). 33 actions local authorities can take on climate change. This report is available online at <https://policy.friendsoftheearth.uk/insight/33-actions-local-authorities-can-take-climate-change>

Royal Society & Royal Academy of Engineering (2018). Greenhouse Gas Removal. This report can be viewed online at: royalsociety.org/greenhouse-gas-removal raeng.org.uk/greenhousegasremoval

Town and Country Planning Association (2018). Rising to the Climate Crisis: Rising to the Climate Crisis – A Guide for Local Authorities on Planning for Climate Change.

West Somerset Climate Change Strategy (2008). Forum 21 for the West Somerset Strategic Partnership and West Somerset Council.

Exmoor National Park Carbon Neutral Programme (2010). Forum 21 for the Exmoor National Park Authority. Available online from the National Park website at http://www.exmoor-nationalpark.gov.uk/data/assets/pdf_file/0004/588370/Exmoor-Carbon-Neutral-Programme-Consultation-V2.pdf

A Clean Healthy Future for Frome (2016). Climate Works for Frome Town Council. Available for download from <http://www.frometowncouncil.gov.uk/wp-content/uploads/2016/07/A-clean-healthy-future-for-Frome-Final-Sept-2016.pdf>

Annex 1 – Achieving the 2030 target

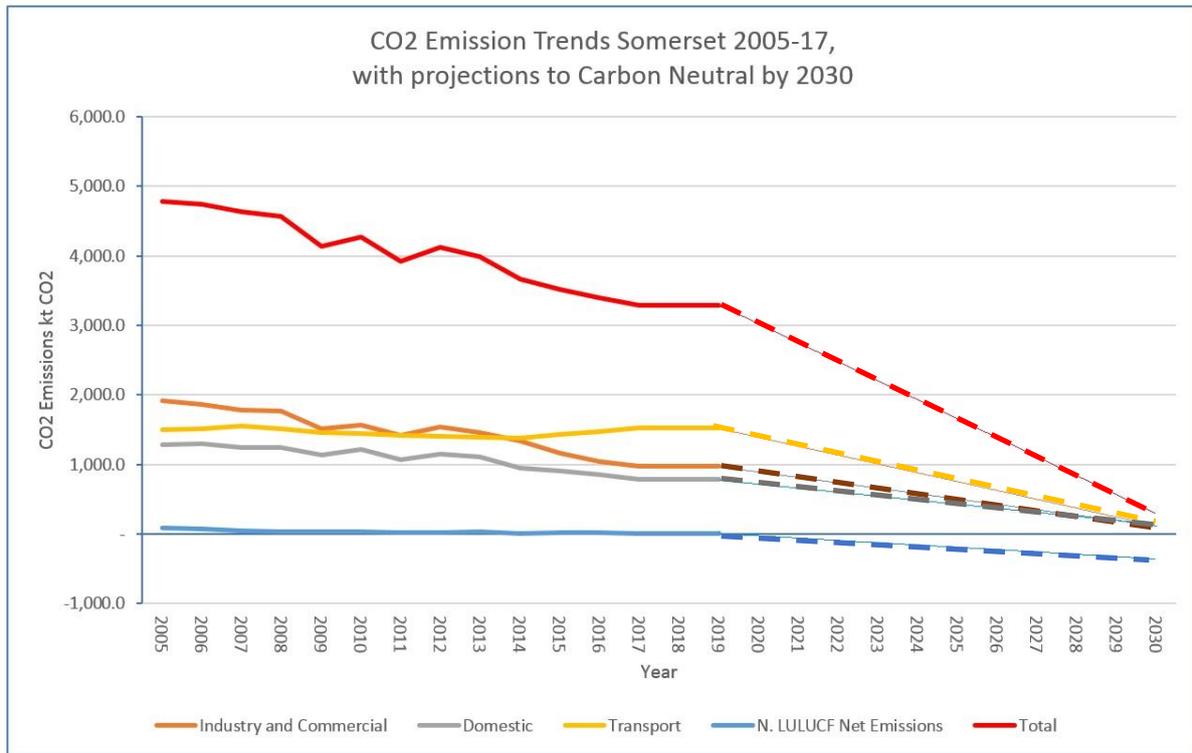


Figure 1 Somerset CO2 Projections 2019-2030 to achieve Carbon Neutral Target (solid lines – actual projections to 2017 and flatline to 2019, dashed lines – illustrative projections 2020-2030.)

The new Somerset target is to achieve net zero carbon emissions by 2030. Figure 1 shows actual carbon emissions by sector, 2005-17 and then projects how emissions need to fall, by sector, from 2020 to 2030. In the absence of data for 2018-19, no change from 2017 is assumed.

The 2030 target numbers show a small residual level of emissions in each of the industry/commercial, domestic and transport sectors of 100 ktons CO2. The total 300 ktons are balanced by a net capture of 300 ktons CO2 in the land-use, land-use change and forestry (LULUCF) (greenhouse gas removals) sector. A straight line reduction in all sectors between 2020 and 2030 is assumed for indicative purposes.

The projections are shown in order to illustrate the sorts of discussions that are now urgently needed to devise policies and actions that can deliver the 2030 target. The sharp change in gradient in all sectors from 2020 demonstrates the urgent step change in Somerset society required.

Annex 2 - Glossary

1.5 degrees	The maximum average global temperature increase due to human-induced climate change since pre-industrial times that the IPCC states is safe for people and nature. The current position is around 1 degree. Business as usual over the next few years means 3 degrees rise or more within a few decades.
Adaptation	The measures needed to protect people from the inevitable adverse effects of climate change already committed by past greenhouse gas emissions.
Carbon neutral	A term usually applied to a future state of an area, country or planet in which emissions of greenhouse gases from human activity are balanced by removals, such as through plant growth processes. Almost synonymous with " net zero ".
Climate Change Act 2008	The law enacted to establish a statutory requirement for the UK to reduce carbon emissions by 80% by 2050, in comparison to previous levels, with interim targets. Recently amended to 100%.
Committee on Climate Change	The committee of experts established under the Climate Change Act 2008 to advise government on policies needed to achieve the 2050 and interim targets, and to report to parliament.
Consumption-based emissions	An approach to calculation of greenhouse gas emissions that includes the carbon-intensity of imports and exports. For the UK this approach gives lower emissions reductions over recent years than the Territorial Emissions approach. See Committee on Climate Change (2019) for detailed analysis.
CO2 equivalent.	A measurement that includes the global warming potential of all greenhouse gases, including methane and nitrous oxide, as well as carbon dioxide, recognising that the rarer gases often have a greater warming potential per unit mass than carbon dioxide. The term "Carbon emissions" is often used as shorthand for greenhouse gases measured as CO2 equivalent.
Greenhouse gas removals	Measures or processes that remove carbon dioxide or other greenhouse gases from the atmosphere, rather than reducing the level of emissions to the atmosphere. Includes natural processes, such as photosynthesis, and engineering processes, such as "DACCS" (Direct Air Capture and Carbon Storage").
IPCC	The Intergovernmental Panel on Climate Change. The global organisation using thousands of climate change scientists to produce regular reports and forecasts for governments. Its 2018 report on the implications of 1.5 degrees has clearly set out why climate change is an emergency.
LULUCF	Land Use, Land Use Change and Forestry. The category of emissions and greenhouse gas removals used by governments to report on the effect of these aspects over time. Quoted as a net figure. Those greenhouse gas removals that are natural processes will be represented in statistics as LULUCF - as a negative number.

Mitigation	Measures that reduce the causes of human-activity-induced climate change.
Negative emissions	A term sometimes used instead of greenhouse gas removals . In a largely theoretical future state of Somerset/ UK/ Planet Earth, greenhouse gas removals could exceed greenhouse gas emissions from human activity, reducing levels of greenhouse gases in the atmosphere. We would then be in a period of "negative emissions".
Net zero	The balance point at which greenhouse gas removals exactly balance the residual emissions of greenhouse gases from human activity. Almost synonymous with " carbon neutral ". In practice there is often confusion between targets of "zero emissions" and "net zero".
NPPF	The National Planning Policy Framework. Government guidance on how planning law should be interpreted and implemented by planning authorities.
Paris Agreement	The global agreement made in Paris in 2015, and ratified by almost every country, including some large US states, to commit to reducing carbon emissions to a level not exceeding 2 degrees rise on pre-industrial levels, and, where possible, move to a 1.5 degree rise.
Territorial emissions	An approach to calculation of greenhouse gas emissions, used in national and international reporting, that is restricted to the emissions and removals directly arising from the goods, services and transport within a territory, such as a state. Excludes the impact of imports and exports (see " Consumption-based statistics "). See Committee on Climate Change (2019) for detailed analysis.