

Item

PRIORITIES FOR A NEW CLIMATE CHANGE STRATEGY 2021-2026 AND

To:

Councillor Rosy Moore, Executive Councillor for Climate Change,
Environment and City Centre
Environment and Community Scrutiny Committee 01/10/2020

Report by:

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Wards affected:

Abbey, Arbury, Castle, Cherry Hinton, Coleridge, East Chesterton, King's
Hedges, Market, Newnham, Petersfield, Queen Edith's, Romsey,
Trumpington, West Chesterton

ANNUAL CLIMATE CHANGE STRATEGY UPDATE REPORT

Key Decision

1. Executive Summary

- 1.1 The Council has had three climate change strategies since 2008, the most of recent of which covers the period from April 2016-March 2021. The strategies set out the Council's approach to: reducing its own carbon emissions; supporting residents, businesses and organisations in Cambridge to reduce their emissions; and helping the city adapt to the predicted changes in climate.
- 1.2 This report provides an update on progress in delivering key actions in the Climate Change Strategy during 2019/20.
- 1.3 It also sets out a framework for a revised Climate Change Strategy covering the period from 2021-2026, ahead of public consultation in autumn 2020. It proposes a revised strategic approach that builds on what the Council has achieved to date but sets out new ambition for

working with residents, businesses and communities in the context of the Climate Emergency.

2. Recommendations

The Executive Councillor is recommended to:

- Approve the proposed framework for the revised Climate Change Strategy for 2021-2026 for public consultation

3. Background

- 3.1 The scientific evidence that the Earth's climate is changing as a direct result of human activity is clear and incontrovertible. Average global temperatures reached 1 degree above pre-industrial (1850) levels for the first time in 2015. Temperatures have been rising most rapidly since the millennium, with the UN's World Meteorological Office (WMO) identifying that 20 of the hottest years on record occurred during the past 22 years¹. The Met Office has reported that the 10 hottest years in the UK since 1894 have all occurred since 2002².
- 3.2 If the current rate of global heating continues, the effects for humanity and biodiversity will be catastrophic, and the window for taking action to limit these effects is reducing. At the twenty first session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015 in Paris, national governments committed to limit global temperature increases to well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit increase to 1.5 degrees³. To achieve this, parties to the agreement agreed to reach net zero global emissions of greenhouse gases in the second half of this century.
- 3.3 With policies currently put in place by national governments, it is projected that temperatures will reach about 3.0 degrees Celsius above pre-industrial levels by 2100, while current unconditional pledges and targets by national governments would limit increases to about 2.8 degrees⁴.

¹ <https://www.telegraph.co.uk/news/2019/02/06/last-four-years-have-hottest-record-un-says/>

² <https://www.itv.com/news/2019-07-31/uks-10-hottest-years-on-record-have-occurred-since-2002-met-office>

³ UNFCCC, 2015, Paris Agreement, Article 2, p2

⁴ Baseline scenarios from IPCC AR5 Working Group III: <https://climateactiontracker.org/global/temperatures/>

- 3.4 At a global level, projected global temperature increases over the next 80 years would lead to mass species extinctions, food and water insecurity, further increases in extreme weather events, flooding of coastal cities as a result of sea levels rising, and health impacts such as increasing prevalence of malaria.
- 3.5 The effects of climate change are already being felt in Cambridge. For example, Cambridge experiencing the highest temperature ever recorded in the UK of 38.7 degrees Celsius during the July 2019 heatwave. The three most likely effects of climate change for Cambridge include⁵: increases in flood events; water shortages and droughts; and increased summer temperatures. The likely impacts of these changes include: decreases in human and non-human health and wellbeing, damage to built and green infrastructure, and increased demand and costs for public services.
- 3.6 While climate change presents very significant challenges, there are a number of opportunities created by recent events:
- Building on an increased public awareness and acceptance that climate change is occurring, and that change is needed to reduce carbon emissions. For example, a survey in October 2019 found that almost two-thirds of people agreed that the climate emergency was the biggest issue facing humankind, with only 7% disagreeing⁶. The twenty-sixth session of the Conference of the Parties (COP26) to the United Nation Framework Convention on Climate Change (UNFCCC) in Glasgow in 2021 is likely to further raise public awareness and influence national policy on climate change.
 - Building on increased public awareness of the effects of climate change and the need to adapt to them. For example, in the context of both the climate emergency and Covid-19 the health and wellbeing benefits of trees, green space and other green infrastructure received high levels of public interest and support.
 - Sustaining the low-carbon impacts of changes in behaviour during the Covid-19 lockdown. As the recovery from Covid-19 begins, there is potentially an opportunity to build on and sustain impacts such as reduced emissions from transport, increased home working in some

⁵ Climate UK, A Summary of Climate Change Risks for East England: to coincide with the publication of the UK Climate Change Risk Assessment (CCRA), 2012

⁶ Guardian, 2019, 'Climate Crisis affects how majority will vote in UK election – poll'
<https://www.theguardian.com/environment/2019/oct/30/climate-crisis-affects-how-majority-will-vote-in-uk-election-poll>

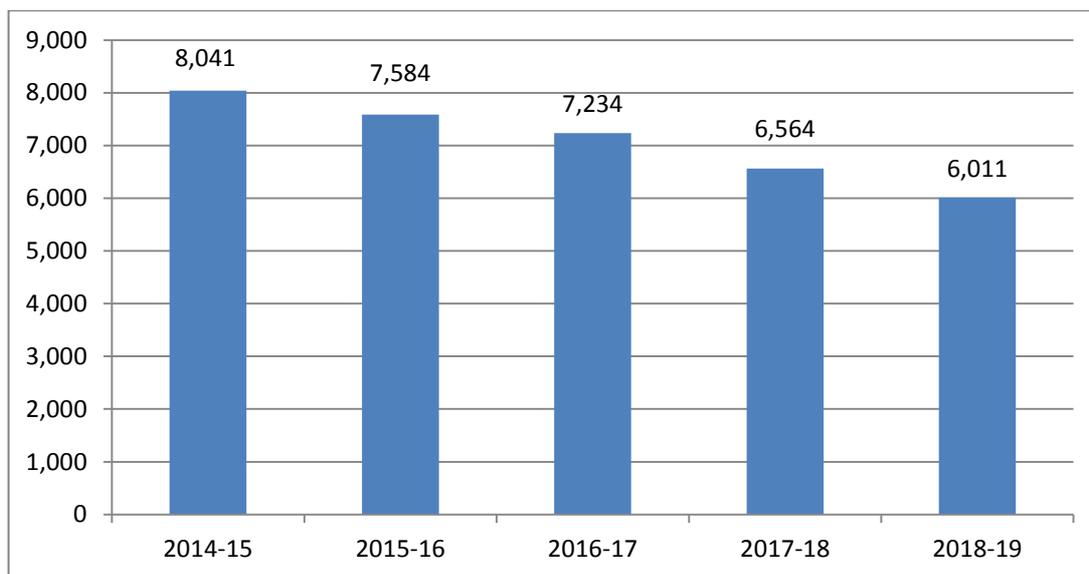
sectors of the economy, and the public health benefits of reduced air pollution.

- Building a green recovery from the impacts of Covid-19 and furthering the transition to a low carbon economy. Cambridge is potentially well placed to play a role in this transition, given the presence of Cleantech businesses and University research expertise and capacity in the city.

4. Action to reduce emissions from the Council's estate and operations (Carbon Management Plan) in 2019/20

4.1 In March 2016, we set a target to reduce the Council's own emissions by 15-20% between 2014/15 and 2020/21 in the Carbon Management Plan 2016-2021. As shown by the chart below, the Council's greenhouse gas emissions reduced by 25.2% from 2014/15 to 2018/19. Total gross emissions reduced by 2,030 tCO₂e in this period, from 8,041 tCO₂e in 2014/15 to 6,011 tCO₂e in 2018/19.

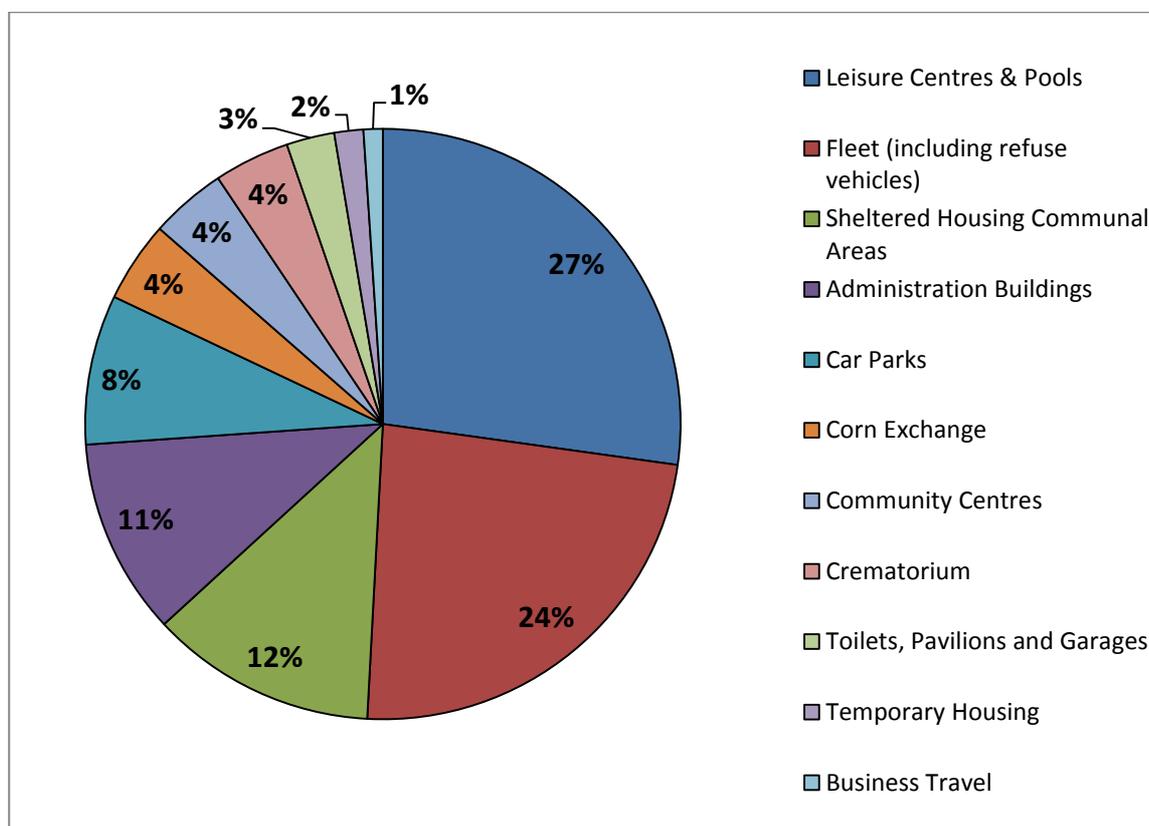
Chart 1. Cambridge City Council Greenhouse Gas Emissions (tCO₂e)



4.2 We are currently still collating the Council's Greenhouse Gas data for 2019/20. Data collection was delayed by a combination of restricted access to Council buildings and sites during lockdown to obtain visual meter readings and a delay by our energy providers in providing data from Automatic Meter Readers (AMRs). We will publish the GHG data in due course, once it has been reviewed for accuracy by the Council's internal audit service.

- 4.3 The reduction in the Council’s emissions from 2014/15 to 2018/19 was partly due to decarbonisation of the electricity supply at the national level in recent years. By 2019, 48.5% of electricity in the national grid was generated from zero carbon sources (wind, solar, hydro and nuclear)⁷, and this share is likely to increase further given planned investments in North Sea off-shore wind and the Government’s commitment to turn off all UK coal fired power stations by 2024.
- 4.4 The reduction in the Council’s emissions is also partly due to steps that the Council has taken, including rationalising its office accommodation, investing in energy efficiency and renewable energy measures in its buildings, and reducing carbon emissions from its fleet vehicles.

Chart 2 – Percentage of total City Council Scope 1, 2 and 3 emissions from different assets 2018/19



Source: Cambridge City Council, 2019, Greenhouse Gas report

- 4.5 The Council has produced two previous Carbon Management Plans, covering the periods from 2012-2016 and 2016-2021. Through these plans, the Council has implemented 66 carbon reduction projects on its

⁷ <https://news.sky.com/story/more-power-came-from-renewable-energy-than-fossil-fuels-in-uk-in-2019-11898806>

own estate and fleet to date, including a range of different energy efficiency, fuel efficiency and renewable energy projects. These projects are listed by asset in the table in Appendix A. They have been funded through a total of over £1.4m in contributions from the Council's dedicated Climate Change Fund since 2008/09, as well as investment from planned maintenance and service budgets.

4.6 Through the Carbon Management Plan, we have targeted investment in carbon reduction projects in the areas of activity which contribute most to the Council's emissions. As shown by the chart on the previous page, in 2018/19 the greatest proportion of emissions came from the Council's 5 swimming pool and leisure facilities (27%), the council's vehicle fleet (24%), sheltered housing communal areas (12%), offices and administrative buildings (11%), and car parks (8%).

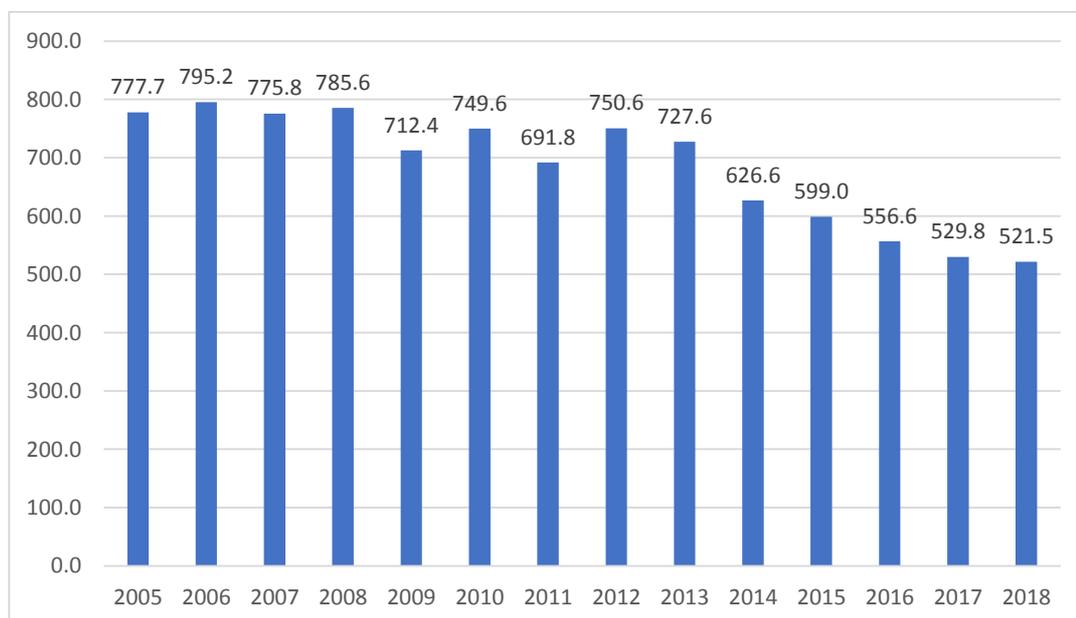
4.7 During 2019/20 the Council completed a number of carbon reduction projects, including:

- Replacing more than 670 existing light fittings at the Guildhall with low energy LED light fittings and automation.
- Replacing communal lighting at Rawlyn Court and Whitefriars sheltered housing schemes with LED lighting.
- Replacing the Customer Service Centre lighting with LED lighting.
- Installing a combined heat and power system (CHP) at the Guildhall.
- Installing building automation measures, including a new Building Energy Management System (BEMS) at the Guildhall to increase the level of control over the heating systems.
- Mechanical works at the Guildhall to improve the efficiency of the heating and hot water system, and insulation of pipework and valves in the plant rooms to reduce heat loss.
- The Guildhall roof covering was replaced and additional insulation was installed.
- 16 new Euro 6 compliant fleet vehicles were scheduled to be purchased to replace older, less fuel-efficient vehicles, and 1 new electric van was due to be purchased.

5. Action to reduce emissions by residents, businesses and organisations in Cambridge (the Climate Change Strategy) in 2019/20

- 5.1 Climate change has been a key priority for the Council for more than a decade. The Council made a formal commitment to tackling climate change by signing the Nottingham Declaration on Climate Change in September 2006, and reaffirmed this commitment by signing the LGA's Climate Local commitment in 2012. In February 2019, the Council declared a climate emergency.
- 5.2 The Council has produced three Climate Change Strategies to date, covering the periods from 2008-2012, 2012-2016 and 2016-2021. These strategies set out the Council's strategic approach to reducing its own carbon footprint, and supporting residents, businesses and organisations in the city to reduce their emissions.
- 5.3 As shown in Chart 3 below, the latest available national carbon dioxide emissions estimates, produced by the Department for Business, Energy and Industrial Strategy (BEIS), show that total emissions in Cambridge have declined steadily over the last 13 years. Total emissions from Cambridge reduced by a third (33%), from 779.7 ktCO₂ in 2005 to 521.5 ktCO₂ in 2018.

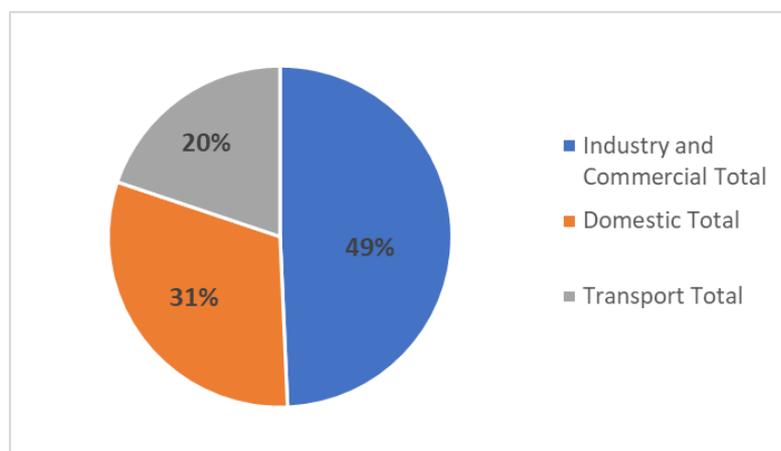
Chart 3: Total Carbon Emissions in Cambridge 2005-2018 (ktCO₂)



- 5.4 It should be noted that, while the Council, residents and partners in the city have taken a range of action over this period, the reduction in emissions from Cambridge (and other cities) in more recent years has been driven primarily by reduced use of coal in electricity generation

and the increased use of renewable energy generation at a national level noted above.

Chart 4: Sources of Carbon Emissions in Cambridge in 2018 (ktCO₂)



5.5 The Council's current Climate Change Strategy focusses on reducing carbon emissions from the key sources of emissions in the city. As shown by the chart below, the three main sources of emissions in 2018 were energy consumption from industrial and commercial properties (including businesses and public sector bodies such as councils, health and education bodies) at 49%, domestic sources (primarily heating and powering homes) at 31%, and emissions from transport (20%).

5.6 The current Climate Change Strategy for 2016-2021 sets out 55 detailed actions. Reports on actions delivered in previous years can be viewed here: <https://www.cambridge.gov.uk/climate-change-strategy>. In 2019/20, the Council has delivered or progressed the following key actions identified in the strategy. Detailed updates on these actions are provided in the table in Appendix B.

- Developing the new Cambridge Climate Change Charter
- Convening 2 meetings of the City Leaders Climate Change group
- Promoting a discounted solar PV scheme for residents
- Providing Sustainable City Grant funding for community projects on home energy and waste reduction, including: Cambridge Carbon Footprint's Circular Cambridge events and Open Eco Homes project, which engaged a total of 517 people in visits to sustainable homes and energy efficiency workshops; and Cambridge Sustainable Foods Summer Vegetable Festival, which

was attended by a total of 3,365 people over 13 events.

- Employing a Fuel and Water Poverty Officer to assist 214 low income residents in 21019/20 to reduce their energy and water costs and consumption.
- Making energy efficiency improvements to existing Council homes, including external wall insulation to 50 properties and a review of loft insulation which led to top up insulation being ordered for 600 properties.
- Building new Council homes to the high environmental sustainability standards set by the Council's Sustainable Housing Design Guide.
- Commissioning consultants to develop an Interim Sustainable Housing Design Guide to set environmental sustainability standards for the building of future Council homes.
- Implementing the climate change and sustainable design and construction policies in the 2018 Local Plan in relation to new developments (domestic and non-domestic).
- Developing the Greater Cambridge Sustainable Design and Construction Supplementary Planning Document (SPD) to help implement the environmental sustainability policies in the 2018 Local Plan.
- Beginning the development of a new Greater Cambridge Local Plan. One of the 'big themes' in the Issues and Options consultation was climate change and contributing to achieving net zero carbon.
- Commissioning consultants to produce a net zero carbon study as part of the Local Plan evidence base.
- Completing 114 outstanding Energy Performance Certificates for City-Council owned commercial properties to inform an approach to meeting the national Minimum Energy Efficiency Standards (MEES) regulations.
- Installing new rapid electric charging points for taxis with Government and Council funding. 8 charge points have been installed to date and up to 21 rapid charge points will be installed in total through the project.
- Taxi licensing regulations requiring all licensed taxis in Cambridge to be zero or ultra-low emission by 2028 have contributed to an increase in the number electric (zero emissions) taxis licensed in

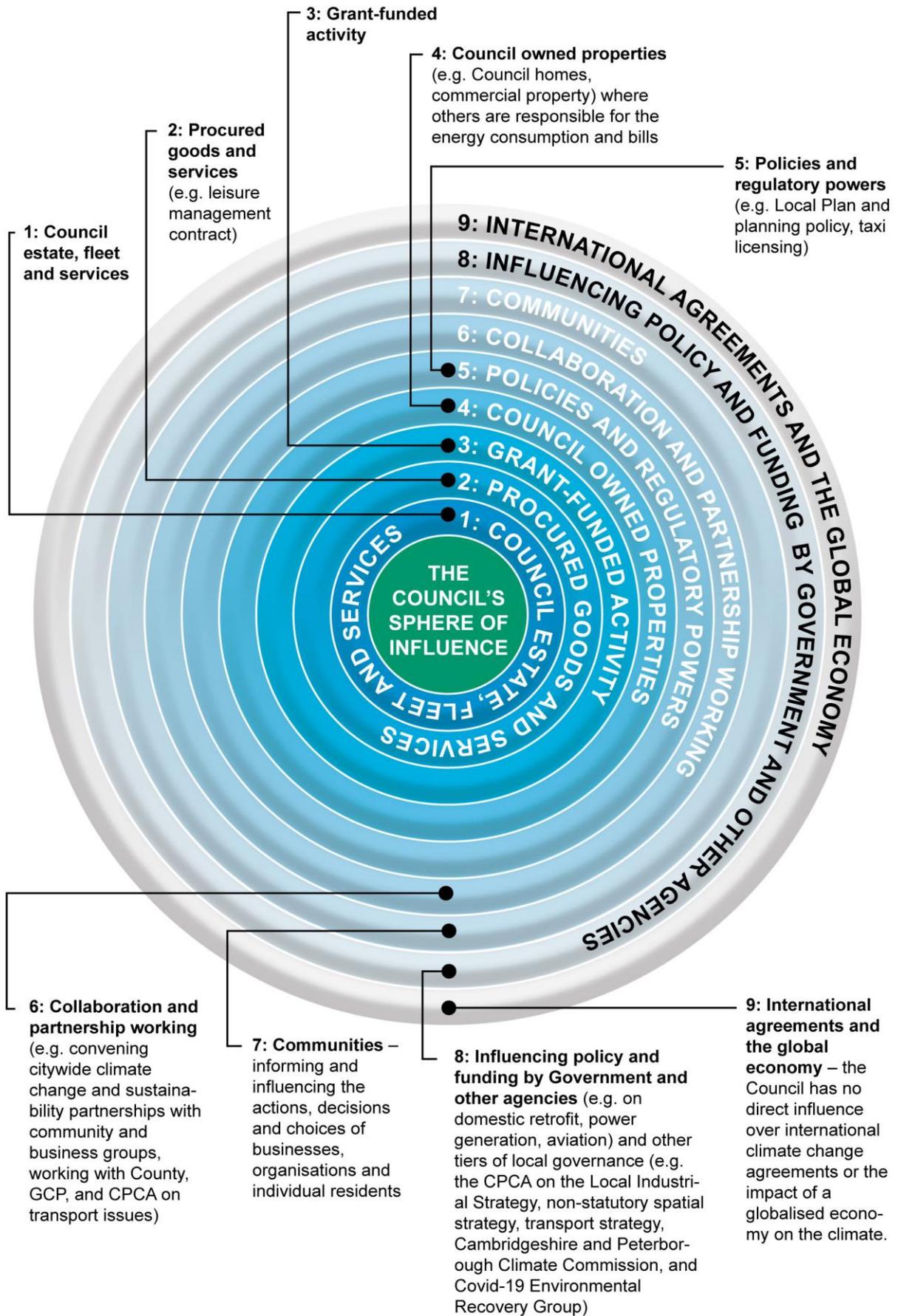
Cambridge from 2 in 2017/18 to 35 currently. There are also 4 plug in hybrid (ultra low emissions) and 62 hybrid (low emission) taxis licenced in the city.

- Approving an Electric Vehicle and Infrastructure Strategy at Environment and Community Scrutiny Committee in October 2019, which identifies how the Council and its partners can help to increase the number of electric charging points available to the public within the city.
- Securing Government funding for a joint project with Cambridgeshire County Council to provide 30 electric cargo bikes for use by Council services, local businesses and residents
- Continued to support for the Cambridge Sustainable Food Network to work towards the Sustainable Food Cities Network's Silver Award for Cambridge.
- Implementing a range of measures to reduce plastic usage at the Cambridge Folk Festival and the Big Weekend in the summer of 2019.
- Planting 500 trees, giving away 350 trees to residents as part of the 'Free Trees for Babies' scheme, and launching a new project to significantly increase the tree canopy in Cambridge

6. Draft framework for a new Climate Change Strategy 2021-2026

Approach and objectives

- 6.1 The climate emergency requires action now to reduce global emissions. While carbon dioxide emissions from Cambridge have reduced significantly in recent years, we recognise they will need to reduce more rapidly in future years to help avert the worst impacts of climate change, and in the context of planned future growth of the city.
- 6.2 It is important therefore that the Council's new Climate Change Strategy shows ambition and leadership, whilst recognising its sphere of influence and the role that other organisations and individuals need to play. The Council itself is only directly responsible for 1.1% of carbon emissions in Cambridge, but it has varying degrees of influence over a larger proportion of emissions from the city. The diagram on the next page illustrates the levels of influence that the Council has over different factors that impact on climate change.



6.3 Given the varying degrees of influence highlighted above, the Council can provide community leadership on climate change mitigation and adaptation issues in a number of different ways. It will:

1. take action to reduce carbon emissions and adapt to climate in the areas where it has most direct control or influence, including the Council's estate, fleet and services, and in criteria for procurement and grant funding.
2. make energy efficiency improvements to Council homes and commercial properties, which will help reduce carbon emissions by housing and commercial tenants; and build new council homes to ambitious environmental standards.
3. take action through the services it delivers (including managing Council homes, planning, environmental health, and recycling and waste collection)
4. use its policy and regulatory powers (including planning policy, licensing, building control, and environmental health regulations) to require particular standards to help reduce emissions and adapt to climate change, as far as national policy and guidance allows.
5. collaboration with partners in the city including communities and businesses, including working towards citywide climate change and sustainability partnerships
6. encourage and support businesses and residents to make choices and take actions to reduce their emissions and adapt to climate change.
7. seek to influence policy and funding decisions by national Government, the CPCA and GCP, and local partners; and to encourage local partners and groups to join forces in making our case to Government and others.

6.4 The Council's current Climate Change Strategy (2021-2026) sets 5 strategic objectives for its action to address climate change. These still seem to form the basis of actions the city council can take, within its spheres of influence. But as part of the development of the new strategy, we will review whether these objectives are still appropriate, or whether there are other strategic areas of activity the strategy should encompass or give greater emphasis to. We will seek views from residents on these objectives as part of the public consultation.

1. Reducing emissions from the City Council estate and operations

2. Reducing energy consumption and emissions from homes and businesses in Cambridge by promoting energy efficiency measures, sustainable construction, renewable energy sources, and behaviour change
3. Reducing emissions from transport by promoting sustainable transport, reducing car travel and traffic congestion, and encouraging behaviour change
4. Reducing consumption of resources, increasing recycling and reducing waste
5. Supporting Council services, residents and businesses to adapt to the impacts of climate change

Reducing carbon emissions from the Council's estate and operations

- 6.5 We will develop a new Carbon Management Plan for 2021-2026, which will set out how the Council will further reduce emissions from its estate, services and operations. As we develop the new plan, we will work with our energy performance contractor (currently Bouygues under the REFIT 3 programme) and Council services to identify a programme of further energy efficiency and renewable energy interventions. Potential projects that have been identified to date are listed in the Table at Appendix A.
- 6.6 These projects will need to target the key assets identified at 4.6 above. For instance, during 2020/21, Bouygues are developing Investment Grade Proposals (IGP) for further renewable energy projects at Parkside Pools and Abbey Pool. Options being investigated include installing additional solar PV panels, ground source heat pumps and/or air source heat pumps. If technically and financially viable, these schemes could potentially eliminate gas usage and increase the supply of renewable electricity at the Council's two largest swimming pools, which would significantly reduce the largest source of emissions in the Council's estate. The Council will continue to explore the technical and financial viability of these schemes and seek to identify ways in which they could be brought forward.
- 6.7 The decision to taken at Environment & Communities Scrutiny Committee in June 2020 to always procure Ultra Low Emission Vehicles (ULEVs) when replacing Council vehicles (where there is a suitable ULEV alternative and the infrastructure allows) will also

significantly reduce emissions from the Council's fleet, which is currently the second largest source of our emissions. The Greater Cambridge Shared Waste Service has also purchased its first electric waste vehicle, and is exploring the potential for further vehicles, which could further reduce the Council's vehicle fleet emissions.

- 6.8 It should be noted that the Council has already invested in many of the simpler, more cost-effective solutions (e.g. LED lighting, solar PV) to reduce emissions from its buildings. The capital cost of the schemes to date listed in Appendix A were 'paid back' by the energy savings generated through the schemes, usually within a ten-year period.
- 6.9 Work conducted by Bouygues to date suggests that increasingly, the schemes that the Council will need to invest in to reduce its emissions in future will have a much higher capital cost (potentially up to several million pounds per scheme for the larger and more complex schemes), and the net savings on energy costs will not always cover the capital costs of some of the works. Unless Government or other funding is forthcoming the Council will need to consider how or whether it can implement such schemes.

Reducing city-wide carbon emissions from Cambridge

- 6.10 The revised Climate Change Strategy will identify actions for 2021-2026 to help further carbon emissions from Cambridge. These will include a combination of:
- 6.11 We have identified a number of key actions for the new strategy which will help reduce emissions from businesses and organisations, homes, and transport. They include:
- Working with Cambridge Carbon Footprint to build on the launch of the new Cambridge Climate Change Charter.
 - Investing £2.5 million in energy efficiency improvements to Council homes with poor energy efficiency ratings (predominantly Energy Performance Certificate D to G rated stock) from 2020/21 to 2022/23.
 - Replacing street lights on Housing Revenue Account (HRA) land with LED lighting through the Council's Estates Improvement Scheme (EIS).
 - Building up to 1000 net new Council homes to the sustainability

standards to be set out in the Interim Sustainable Housing Design Guide.

- Working with Cambridgeshire County Council to promote the Solar Together collective purchase scheme to homeowners, which will provide residents with solar PV installations at a reduced cost.
- Taking enforcement action against private landlords if their properties do not meet the national Minimum Energy Efficiency Standards (EPC F and G rated stock).
- Bidding for central government funding through the new Green Homes Grant scheme to retrofit energy efficiency measures to private homes. £500 million of this funding will be delivered through local authorities to improve the energy efficiency of EPC E, F and G rated homes for low income households and we are working with other Cambridgeshire local authorities to submit a joint bid in the next round due April 2021.
- Developing new policies related to climate change mitigation for new developments as part of the new Local Plan, taking into account the outcomes of the current national consultation on planning reforms.
- Implementing the Councils Electric Vehicle and Infrastructure Strategy to help increase the number of private electric vehicles in Cambridge. This includes:
 - using taxi licensing polices and further installation of charging points to further increase the number of electric taxis licensed in the city;
 - reviewing options to facilitate the introduction of charge points in our multi storey and surface car parks;
 - requiring electric charging points in new developments; and
 - working with Cambridgeshire County Council on a joint application to the Government's Office for Low Emissions Vehicles (OLEV) for funding for on-street residential electric charge points.
- Through the Greater Cambridge Partnership, which the Council is a partner in, delivering a number of key public transport, cycling and walking schemes. These include:
 - 12 'Greenways' providing cycling and walking radial routes

connecting Cambridge and surrounding settlements and employment sites.

- bus priority schemes on Histon Road and Milton Road.
- Public transport corridor schemes to connect growing communities to employment hubs, including Cambourne to Cambridge and Cambridge South East (Babraham Research Campus and Granta Park)
- Working with Cambridgeshire County Council to implement a Government-funded scheme to provide 30 electric cargo bikes for use by Council services, local businesses and residents.
- Working with private companies interested in introducing an E-bike hire scheme.
- Continuing communications campaigns to promote recycling, re-use and waste reduction by households in Cambridge.
- Continuing to reduce plastic usage and waste at Council buildings and events such as the Big Weekend and Folk Festival.
- Supporting an application by Cambridge Sustainable Food for Silver Award status for Cambridge.

6.12 As part of the development of the Climate Change Strategy, we will also carry out a review of potential additional activities that could help reduce emissions from the city, taking into consideration best practice from other comparable local areas.

6.13 While the Council can take the actions identified above to help mitigate Climate Change, very significant action will also be needed by national government (and binding inter-governmental commitments) if carbon emissions are to be reduced and the city is to reach net zero carbon. Over the period of the new Climate Change Strategy, we will actively lobby Government to make the necessary interventions at a national level, and to provide the powers and resources needed at a local level to reduce carbon emissions in Cambridge.

6.14 The UK Universities COP26 Network (including input from the University of Cambridge) for instance has already made a clear set of policy recommendations to Government in May 2020, and the city council supports this clear call for action on the part of national

Government and organisations who have many of the major policy and fiscal levers of influence within their gift.

- 6.15 Significant action will also be needed by local residents, businesses and other organisations in the city if carbon emissions are to be reduced and the city is to reach net zero carbon. Over the period of the new Climate Change Strategy, the Council will seek to engage more actively with businesses and communities to encourage and facilitate behaviour change and action. Where possible and appropriate the council will seek to support collaborative action between groups of residents and/or community groups and/or businesses. Cambridge is rich in knowledge, insight and expertise on issues of climate change and sustainability, and the council believes that much more can be achieved by supporting mutual and collaborative work within and between communities.
- 6.15 Over the lifetime of the strategy, we plan to build on the City Leaders Climate Change Group and the Council's wider engagement in other business partnerships (such as the BID, Cambridge Ahead, Cambridge 2030) to develop, potentially, a broad, action-focused Sustainability Coalition in the city.

Adapting to climate change impacts in Cambridge

- 6.16 We recognise that, in addition to reducing carbon emissions, it is equally important to ensure that Cambridge adapts to the effects and risks of climate change identified at 3.4 above, including: increases in flood events; water shortages and droughts; and increased summer temperatures. As with climate change mitigation, the Council can provide leadership on adaptation issues, but it will also require Government policy support and action by residents, businesses and other organisations.
- 6.17 The strategy will identify a range of climate change adaptation actions, including:
- Increasing the tree canopy cover, and using parks, open spaces and other green infrastructure in the city to help regulate temperatures.
 - Exploring opportunities to manage climate risks through policies in the new Local Plan, subject to the outcomes of the current national consultation on planning reforms. This could include: designing buildings that are simple to keep cool; water efficiency policies to help reduce water consumption and manage water resources; and

Sustainable Urban Drainage (SUDs) measures to help reduce flood risk.

- Working with Cambridgeshire County Council and other partners to manage climate change-related flood risks.
- Providing advice to residents on how to reduce health risks during heatwaves and minimise flood risks

Wider social and environmental objectives, including social justice, biodiversity, green infrastructure and air pollution

6.18 As well as measures to mitigate and adapt to climate change, the Council's new Climate Change Strategy will need to establish clear links to other social and environmental policy objectives for the Council, such as reducing poverty, promoting equality and social justice, tackling the biodiversity emergency, protecting and enhancing the city's green infrastructure and reducing air pollution. This will be particularly important as we work to secure a green recovery from the impacts of coronavirus and lockdown.

6.18 We will explore how the "Doughnut Economics" model⁸ and concepts such as the Wealth Economy⁹ can help us to design the strategy, plan activity and engage partners.

7. Ambitions for reducing emissions from Cambridge

7.1 In agreeing its current Climate Change Strategy in March 2016, the Council set an aspiration for the city of Cambridge to achieve zero carbon status by 2050. This timescale is consistent with the revised, legally-binding target for the UK to be net zero carbon by 2050 announced by the Government in June 2019, which was informed by the recommendations of the UK's independent Committee on Climate Change.

7.2 At the October 2019 meeting of the City Leaders Climate Change Group, the Committee on Climate Change explained that 2050 was the most credible date for achieving net zero carbon emissions across the whole of the UK economy. Their analysis shows that some sectors of the economy (e.g. electricity generation, petrol and diesel vehicles) could be decarbonised by the 2030s, but for most sectors, 2050 is the earliest credible date that they could reach net-zero. For some sectors

⁸ <https://www.kateraworth.com/doughnut/>

⁹ <https://www.bennettinstitute.cam.ac.uk/research/research-projects/wealth-economy-social-and-natural-capital/>

(e.g. aviation and agriculture), it will not be possible to reach zero emissions without off-setting measures.

- 7.3 The Council's current aspiration is also consistent with the Intergovernmental Panel on Climate Change (IPCC) special report in 2018, which found that in order to limit global temperature increases to 1.5°C "global net human-caused emissions of carbon dioxide (CO₂) would need to fall by 45% from 2010 levels by 2030, reaching 'net zero' around 2050". However, the IPCC does suggest that developed countries should seek to cut emissions faster than developing countries, as they are responsible for higher levels of per capita emissions, both historically and currently.
- 7.4 On 21 February 2019, the Council declared a climate emergency. In its climate emergency declaration, the Council called on government, industry and regulators to implement the necessary changes to enable Cambridge and the rest of the UK to reach net zero carbon by 2030.
- 7.5 The declaration recognised that while the Council can play a leadership role, and can use its policies and regulatory powers to influence emissions in some sectors, the actions and choices of national government, businesses and organisations, and individuals have a very significant impact on emissions in the city.
- 7.6 As part of the development of the new Strategy, we will consider the latest evidence on whether the Council's current net zero carbon aspiration for Cambridge should be revised, and what interim milestones might be set. As part of the consultation, we will seek residents views on their net zero carbon aspirations for the city.
- 7.7 We plan to use the ClimateView system to identify the broad changes that would be needed in different areas of carbon emissions (e.g. home energy, vehicle transport, industry) in order for Cambridge to reach net zero carbon, and identify the areas where interventions would be needed by relevant stakeholders. This evidence-based approach will help inform the Council's approach to the net zero carbon aspiration.
- 7.8 An initial, crude estimation of the type of changes required across the city is set out in Appendix D. We will develop our understanding of these factors, others that need to be included, and the contribution they are likely to make to the trajectory towards net zero, as we use the ClimateView tool and develop the final strategy.

7.9 Ultimately, the Council recognises that all stakeholders in the system need to work towards achieving net zero carbon status as soon as possible.

8. Implications

a) Financial Implications

Funding for projects included in the Carbon Management Plan comes from a number of different funding sources, including the Council's Climate Change Fund and existing General Fund or Housing Revenue Account (HRA) budgets for delivering services. The Climate Change Fund was established in 2008 to fund measures that will reduce the carbon footprint of the Council's buildings, fleet and services. The Climate Change Fund has contributed a total of £1.4 million to projects delivered since 2008/09.

As noted 6.9, the schemes that the Council will need to invest in to reduce its emissions in future will potentially have a much higher capital cost, and the net savings on energy costs will not always cover the capital costs of some of the works, so the Council will need to consider how to fund these works.

The actions contained in the wider Climate Change Strategy will be funded through:

- Existing budgets for delivering key services. These fall within the General Fund or the HRA depending on the services involved.
- Government and other external funding sources for climate change initiatives (such as OLEV funding for electric charging points for taxis, bids to the Green Homes Grant for energy efficiency work in private homes).

b) Staffing Implications

Lead officers have been identified for projects in the Climate Change Strategy and Carbon Management Plan who have the capacity to deliver the projects within the stated timescales. The Climate Change Officer co-ordinates the overall delivery of the Climate Change Strategy and Carbon Management Plan, with support from the Environment Policy and Project Group, which is a corporate group that includes many of the lead officers.

c) Equality and Poverty Implications

An Equalities Impact Assessment (EqIA) of the aims and objectives will be carried out as the Climate Change Strategy and the Carbon Management Plan are developed. Further Equality Impact Assessments may be undertaken for individual actions and projects. For example, an EQIA was carried out for the North East Cambridge Area Action Plan.

d) Environmental Implications

The Climate Change Strategy and the Carbon Management Plan will have a high positive impact on the environment by setting out a planned approach to: reducing the Council's carbon emissions; setting high standards for residents, businesses and organisations to reduce their carbon emissions and manage climate risks; and working in partnership with, influencing and learning from other organisations to address the causes and effects of climate change.

e) Procurement Implications

Recent projects identified in the Carbon Management Plan (including LED lighting installations in car parks, the Guildhall energy efficiency works and the programme of solar PV installations) have been delivered through the national REFIT 3 framework. The Council signed access agreements to allow it to make use of the RE-FIT framework specifically designed for energy performance contracting. This allowed us to access Bouygues Group PLC as a contractor to identify and deliver energy efficiency projects. The principle benefit of this arrangement is that Bouygues have guaranteed the energy savings predicted for the projects they have delivered for the Council (subject to the new equipment being managed within defined limits).

In April 2020, Cambridgeshire County Council led a consortium of local authorities including Cambridge City Council to procure a partner for future energy efficiency and renewable energy schemes. Bouygues were appointed as the contractor through this process.

f) Community Safety Implications

The Climate Change Strategy and Carbon Management Plan have minimal impact on Community Safety.

9. Consultation and communication considerations

To inform this report, we have carried out some initial consultation with local voluntary and community groups (including Cambridge Carbon Footprint, Cambridge Sustainable Food, Cambridge Friends of the Earth, Carbon Neutral Cambridge, Transition Cambridge and Pivotal) and academics from Cambridge Zero and the Bennett Institute at the University of Cambridge and the Global Sustainability Unit at Anglia Ruskin University.

We will be consulting on the key themes and objectives of the outline draft strategy set out in this report and seeking input (from residents, academics and community groups) on other strategic objectives or activities that should be included in the strategy. As part of this consultation, we intend to hold a series of online public engagement workshops in October and November 2020. The findings from this consultation will be reflected in the final version of the new Climate Change Strategy, which will be presented for approval by the Executive Councillor at the Environment and Community Scrutiny Committee on 25 March 2021.

1. Background papers

No background papers were used in the preparation of this report.

2. Appendices

- Appendix A – Summary of Carbon Management Plan projects (implemented and planned)
- Appendix B – 2019/20 updates on key actions in the Climate Change Strategy 2016-2021 (under Objectives 2 to 5)
- Appendix C – Potential pathways to net zero carbon – Cambridge City Council
- Appendix D – Potential pathways to net zero carbon – Cambridge

3. Inspection of papers

To inspect the background papers or if you have a query on the report please contact David Kidston, Strategy and Partnerships Manager, tel: 01223 457043, email: david.kidston@cambridge.gov.uk

Appendix A – Summary of Carbon Management Plan projects (implemented and planned)

Asset	Projects implemented to date	Potential projects for 2021-2026
Swimming pools and leisure centres	<ul style="list-style-type: none"> • Solar thermal system at Abbey Pool • Solar PV installations at Parkside Pool, Abbey Pool, Kings Hedges Learner Pool • LED lighting at Abbey astro turf pitches • Voltage optimisation at Abbey Pools • Upgrading the boilers at Abbey Pools and Cherry Hinton Village Centre to condensing boilers • A range of different energy efficiency improvements at different pools including: pool covers; Building Energy Management Systems (BEMS), Variable Speed Drives, heat pump, and refurbishment of an existing Combined Heat and Power (CHP) 	<ul style="list-style-type: none"> • Additional solar PV arrays at Parkside Pool and Abbey Pool • Ground source heat pumps at Parkside Pool and Abbey Pool • Air source heat pumps at Parkside Pool • Heating, ventilation and lighting improvements at Parkside Pool, Abbey Pool, Kings Hedges Learner Pool and Cherry Hinton Village Centre
Fleet	<ul style="list-style-type: none"> • Replacing new fleet vehicles with more fuel-efficient Euro 6 models at the end of their life span • Introducing 11 electric vehicles to the non-waste fleet (Estates and Facilities, Environmental Services). • 1 electric waste vehicle has been purchased by the Shared Waste Service. 	<ul style="list-style-type: none"> • Fleet review – diesel fleet vehicles will be progressively replaced with electric vehicles, with the aim of the (non-waste) vehicle fleet being 100% by 2028. • Waste fleet - replacing vehicles with electric or hydrogen powered vehicles as cost-effective models come to market
Office accommodation	<ul style="list-style-type: none"> • LED lighting and motions sensors at Guildhall and Mandela House • Solar PV installations at Guildhall, Mandela House and Waterbeach Depot • Energy efficiency works at the Guildhall, including a Combined Heat and Power plant (CHP), new Building Energy Management System (BEMs), mechanical works 	

Asset	Projects implemented to date	Potential projects for 2021-2026
	<p>to improve the efficiency of the heating and hot water system, roof insulation and secondary glazing</p> <ul style="list-style-type: none"> • Voltage optimisations at Guildhall and Mandela House • Upgrading the boiler at Mandela House to a condensing boiler • Replacing the air conditioning system at Mandela House and upgrading it to a more energy efficient system. 	
Car parks	<ul style="list-style-type: none"> • LED lighting and motions sensors at Grand Arcade and Grafton East car parks • Voltage optimisation at Grafton East car park 	
Sheltered and Temporary Housing (communal areas)	<ul style="list-style-type: none"> • LED lighting Stanton House, School Court, Rawlyn Court and Whitefriars (communal areas) • Solar PV installations at Brandon Court, Whitefriars, and New Street Hostel • Lighting sensors at Whitefriars and School Court 	
Crematorium	<ul style="list-style-type: none"> • Solar PV installation at the Crematorium • Heat recovery system at the Crematorium 	<ul style="list-style-type: none"> • Heating and ventilation improvements/ Building Energy Management System (BEMS), LED lighting, insulation
Corn Exchange	<ul style="list-style-type: none"> • LED lighting at the Corn Exchange • Installing heating controls in the foyer 	<ul style="list-style-type: none"> • Heating improvements (boilers and air plant)
Community Centres	<ul style="list-style-type: none"> • Solar PV installation at Buchan Street Centre • Upgrading the boilers at the Meadows Community Centre and Ross Street Community Centre to condensing boilers 	

Appendix B – 2019/20 updates on key actions in the Climate Change Strategy 2016-2021 (under Objectives 2 to 5)

Action	Update
Objective 2. Reducing energy consumption and emissions from homes and businesses	
Developing the new Cambridge Climate Change Charter	<p>The Council procured Cambridge Carbon Footprint to develop a new Cambridge Climate Change Charter during 2019/20. The new Charter website was launched on 7 September 2020, which enables residents to calculate their carbon footprint and pledge to take specific actions to reduce this footprint, including emissions from their homes, transport and waste. Businesses can also sign the charter on the website and pledge to take specific actions to reduce their footprint. The Charter website also signposts residents and businesses to sources of further relevant information and support. The Charter website can be found here:</p> <p>https://cambridgecarbonfootprint.org/charter/</p>
Convening meetings of the City Leaders Climate Change group	<p>The Council has continued to convene meetings of the City Leaders Climate Change group, which brings together businesses, universities, public sector organisations and voluntary and community groups to explore how emissions in the city can be reduced. Since July 2017 the Council has convened 6 themed meetings of the group. In October 2019, the group considered what would be required to reach net zero carbon by 2050, with presentations from the national Committee on Climate Change, the University of Cambridge and the Council. In February 2020, the group explored the support available for businesses, with input from Cambridge Carbon Footprint on the Climate Change Charter, Landsdown Warwick on Environmental Management Systems, and the Cambridge Institute for Sustainability Leadership on</p>

Action	Update
	wider support available.
Discounted Solar PV scheme for residents	The Council has worked with the County Council to promote a solar PV collective purchase scheme for residents. The scheme is run as an auction, with interested residents registering with iChoosr (at no obligation) and installers then bidding to provide solar PV for the group of interested residents. On average, the scheme has achieved 20% cost savings for residents in other local authority areas. The first auction will be held in September 2020.
Grant funding for community projects on home energy	The Council funded Cambridge Carbon Footprint through the Sustainable City Fund to deliver a range of home energy activities, including: 2 Open Eco Homes weekends allowing 319 residents to visit 11 homes and buildings where carbon reduction measures have been installed, including the new Cambridge Mosque and the Marmalade Lane development; and 6 energy saving workshops attended by 198 people.
Energy and water saving measures for residents in fuel and water poverty	The Council has employed a Fuel and Water Poverty Officer to assist low income residents to reduce their energy and water costs and consumption. In 2019/20 a total of 214 low income residents were supported to install energy or water saving measures in their homes.
Energy efficiency improvements to existing Council homes	The Council has reviewed the energy performance of Council homes. Some properties have Energy Performance Certificates (EPCs) and we have used our housing stock data to estimate EPC ratings for properties where an actual EPC has not yet been carried out. 5168 properties have an actual (or assumed) EPC rating of C or above. The current average EPC score across the Council's housing stock is 70.17 (a C rating), which is higher than the average for private housing in the city (a D rating).

Action	Update
	<p>As part of a wider programme, external wall insulation was installed at 50 Council homes in 2019/20. A review of loft insulation was completed, which identified 600 properties where top-up loft insulation is required. This work is now ordered to be completed in 20/21.</p> <p>Following approval in the Budget Setting Report, a £2.5 million investment in energy efficiency works to Council homes with poor energy efficiency ratings will be delivered 2020/21 to 2022/23. A new programme of external wall insulation and other efficiency measures to 70 homes is being procured for delivery in 2020/21, with additional programmes planned for future years.</p>
<p>Sustainability standards and measures for new Council homes</p>	<p>The Council's current Sustainable Housing Design Guide is included as part of the brief and contract for all City Council developed housing schemes. All of the 500 homes being delivered as part of the programme are meeting or exceeding the energy and water requirements of the guide, which means they are achieving the equivalent of Code for Sustainable Homes Level 4 or above in terms of energy use and associated carbon emissions. The following measures have been included in developments:</p> <ul style="list-style-type: none"> • 19% improvement on current Building Regulations for Mill Road phase 1, Anstey Way, garage sites, Ventress Road, Cromwell Road and Akeman Street developments. • 35-40% improvement on current Building Regulations for Mill Road Phase 2, Colville Road, Campkin Road, and Meadows Centre and Buchan Street Neighbourhood Centre developments. • Electric vehicle charging points and cycle parking above adopted cycle parking standards. • Mechanical ventilation with heat recovery

Action	Update
	<ul style="list-style-type: none"> • Water efficiency measures to achieve water use of no more than 110 litres/person/day. • Green roofs on buildings • Solar PV and Battery Storage are also being considered for all sites.
Interim Sustainable Housing Design Guide	<p>Consultants, Buro Happold, were commissioned to produce an new interim Sustainable Housing Design Guide, which will set the environmental sustainability standards for the next programme of new build Council homes and provide a roadmap to zero carbon in line with proposed Local Plan which is due 2023/2024. A report will be presented to Housing Scrutiny Committee in January 2021, after consultation with members and officers, with environmental sustainability targets for the council housing building for the next ten years. The report will set out a roadmap to zero carbon outlining the capital costs, running costs and tenant costs for the current Local Plan standards (19% reduction on 2013 building regulations); Local Plan Plus (35% reduction); Passivhaus (30% reduction) and Zero Carbon (100% reduction).</p>
Implementation of climate change and sustainable design and construction policies in the existing Local Plan	<p>As a result of climate change and sustainable design and construction policies in the Local Plan, 8 non-domestic buildings achieved the BREEAM very good standard, 8 non-domestic buildings achieved BREEAM excellent, and 1 non-domestic building achieved BREEAM outstanding. During 2019/20, the most recent lots on the Eddington residential development achieved Code for Sustainable Homes Level 5.</p>
Greater Cambridge Sustainable	<p>The Greater Cambridge Shared Planning Service developed the new SPD during 2019/20, which will help implement climate change and sustainable</p>

Action	Update
Design and Construction Supplementary Planning Document (SPD)	design and construction policies including in the 2018 Cambridge Local Plan. It sets out the information that should be submitted with planning applications to demonstrate how schemes meet the Councils requirements. Consultation on the SPD took place until 23 September 2019, and the document has now been adopted.
Developing the new Greater Cambridge Local Plan	<p>Consultation has been carried out on the ‘issues and options’ for the new Local Plan. One of the ‘big themes’ in the recent Local Plan Issues and Options consultation was climate change and contributing to achieving net zero carbon.</p> <p>Consultants have been commissioned to produce a net zero carbon study as part of the Local Plan evidence base, which will explore how the Local Plan can contribute to net zero carbon development.</p> <p>Reducing carbon emissions and reaching net zero cannot be achieved by focussing on energy useage alone. The Issues and Options report set out six potential options for locating future development and growth, ranging from further densification in Cambridge, through development on the edge of the city, to development in surrounding villages, new settlements or along transport corridors. These choices will affect how much people travel to and from Cambridge for work, leisure, access to services and other purposes, and how close they live to existing public transport infrastructure, which will impact on levels of carbon emissions in the city.</p> <p>The impact of the Government’s proposed changes to the planning system will also need to be understood and reviewed – these may impact on local councils’ ability to set environmental standards through their own plan-making processes.</p>

Action	Update
North East Cambridge Area Action Plan	Climate change and low carbon development is a key priority in the draft Area Action Plan for the North East Cambridge development and a climate emergency policy is included in the draft document. An energy masterplan is in the process of being procured for the site, which will consider the energy and associated infrastructure required to help support the transition to net zero carbon. Targets for inclusion in the Area Action Plan will be informed by the net zero carbon study for the Local Plan.
Energy efficiency standards in Council-owned commercial properties	<p>The Council has developed a Commercial Property Energy Efficiency Plan, which aims to make all of its commercial property compliant with the national Minimum Energy Efficiency Standards (MEES) Regulations. From April 2018, the regulations require that any vacant property that will be let in future must achieve an EPC (Energy Performance Certificate) rating of band E or better. From 1 April 2023, landlords must not continue letting a non-domestic property which is already let if it has an EPC (Energy Performance Certificate) rating below band E.</p> <p>There are 114 Council commercial properties that do not have an EPC. During 2019/20, draft EPCs for these properties were completed. They are currently being reviewed and will lead to a proposed programmes of work to ensure compliance with MEES Regulations and identify potential improvements to exceed minimum requirements where funding allows. Future redevelopment opportunities are also being considered which would see improved environmental performance of the portfolio.</p>
3. Reducing emissions from transport	
Electric charging points	The Council installed new rapid electric charging points for taxis using funding from the government's

Action	Update
for taxis	Office for Low Emission Vehicles (OLEV) and a financial contribution from the Council to encourage the take-up of low-emissions electric taxis. 8 charge points have been installed to date (at Adam and Eve Car Park, Arbury Court, Castle Hill car park and Newmarket Road). In total up to 21 rapid charge points will be installed through the project. The conditions of the OLEV grant require that these charging points are to be used by taxis only for the first 3 years, but after this period we will review who can use the charging points.
Licensing policy for electric taxis	The Council's taxi licensing regulations require all licensed taxis in Cambridge to be zero or ultra-low emission by 2028, and incentives are available for taxi operators to encourage the shift from diesel vehicles to low or zero-emission alternatives. Together with the installation of charging points, this has contributed to an increase in the number of fully electric taxis operating in Cambridge from 2 in 2017/18 to 35 in 2019/20. There are now a total of 35 fully electric (zero emissions) 4 plug in hybrid (ultra low emissions) and 62 hybrid (low emission) taxis licenced in the city.
Electric Vehicle Infrastructure strategy	An Electric Vehicle and Infrastructure Strategy was approved at Environment and Community Scrutiny Committee in October 2019. The Strategy identifies how the Council and its partners, including Cambridgeshire County Council, can help to increase the number of electric charging points available to the public within the city. City Council activity includes: <ul style="list-style-type: none"> • reviewing options to facilitate the introduction of charge points in our multi storey and surface car parks • including electric charging points in the plans for the redevelopment of Park Street Car Park

Action	Update
	<ul style="list-style-type: none"> • requiring electric charging points in new developments • working with Cambridgeshire County Council on a joint application to the Government's Office for Low Emissions Vehicles (OLEV) for funding for on-street residential electric charge points
E-cargo bikes	The Council recently secured Government funding for a joint project with Cambridgeshire County Council to provide 30 electric cargo bikes for use by Council services, local businesses and residents.
Cycling, walking and public transport schemes	<p>The Greater Cambridge Partnership, which the Council is a partner in, has delivered improvements (such as raised or segregated cycle lanes or widened shared use paths) to 4 cycle routes across the city on Arbury Road, Ditton Lane, Hills Road, and links to Cambridge North Station and Cambridge Science Park. Improvements have been made to Fulbourn Road, but the full scheme is due to be completed by the end of 2020.</p> <p>Work on the Chisholm Trail, which will provide a mostly off-road cycling and walking route between Cambridge Station and Cambridge North Station, has been progressed during 2019/20. The Abbey-Chesterton bridge has been delivered and a new jetty is being installed to connect the Stourbridge Common and Ditton Meadows footpaths in August 2020.</p> <p>Through its Environmental Improvement Programme (EIP), during 2019/20 the Council also directly funded and delivered improved bus shelters in Chesterton Lane and Gilbert Road, and new cycle parking stands around Mitcham's Corner.</p>
Local Lettings Plan provisions	The Council has developed a Local Lettings Plan framework for new Council housing developments. The framework will give priority to people working

Action	Update
	<p>within an agreed geographical radius of the development, whilst ensuring that priority is available to employees of a range of employers and employment types. This measure is intended to help reduce commuting by car from tenants of new Council housing developments.</p>
<p>Objective 4. Reducing consumption of resources, increasing recycling and reducing waste</p>	
<p>Promoting recycling and reducing waste</p>	<p>During 2019/20, the Council carried out several communications campaigns to promote recycling, waste reduction and re-use to households, including articles in Cambridge Matters magazine, events and social media activity. In the lead-up to Christmas 2019 communications focussed on reducing and recycling household waste associated with Christmas.</p> <p>The household recycling rate for 2019/20 in Greater Cambridge was 51%, which was the same as in 2018/19, but the quality of recyclate improved with reduced contamination in collections following communications campaigns on this issue.</p> <p>The Council also signed the Cambridge Plastic Pledge, undertook a number of actions to reduce plastic consumption at Council buildings and events, used its licensing policy to require traders at Cambridge market not to offer plastic cups and trays, and promoted ways to reduce plastic useage to residents.</p>
<p>Sustainable Food</p>	<p>The Council continued to support the Cambridge Sustainable Food Network to work towards the Sustainable Food Cities Network’s Silver Award for Cambridge. During 2019/20 the Council also funded Cambridge Sustainable Food to: develop community fridges to redistribute surplus food from local SMEs; and run a Summer Vegetable Festival in July 2019,</p>

Action	Update
	which was attended by 3,365 people and involved 41 partners delivering 13 events.
Sustainable City Grant activity	The Council funded Cambridge Carbon Footprint to deliver a range of activities as part of the Circular Cambridge project, including talks, stalls at Arbury carnival and Chesterton Festival, a Sustainable Fashion Festival, repair cafes and clothes swaps at Cambridge University events, and upcycled art displays in 5 charity shops.
Reducing plastics usage at Cambridge Folk Festival.	The Folk Festival is accredited as an outstanding Greener Festival, and for a number of years the festival has required traders to use bio-degradable consumables (cutlery, cups, straws etc.) and not to offer plastic bags and single serve condiments to customers. Reusable polycarbonate glasses rather than plastic glasses are used at the festival's bars and in 2019 no single use plastic bottles were to be sold or provided to staff/artists on site.
Reducing plastics usage at the Big Weekend	A number of steps were taken to reduce plastics usage at the 2019 Big Weekend event by: providing additional drinking water stand pipes for the public; providing free refillable water bottles for the public, staff and artists in partnership with Cambridge Water; using returnable recyclable pint cups and a deposit scheme at the onsite bar; requiring no plastic water bottles to be offered or used backstage; using reusable cable ties, fabric banners, and chalkboard signage; and a marketing campaign to encourage the public to take litter home, and to use refillable water bottles and re-usable coffee cups.
5. Supporting Council services, residents and businesses to adapt to the impacts of climate change	
Increasing the tree canopy in	The Council planted 500 trees in 2019/20 and gave away 350 trees to residents as part of the

Action	Update
Cambridge	‘Free Trees for Babies’ scheme. The Council also launched a new project to significantly increase the tree canopy in Cambridge, which will have climate change mitigation and adaptation benefits.
Promoting biodiversity	<p>The Council is currently drafting a Biodiversity Strategy for 2021 to 2030 (to replace its existing Nature Conservation Strategy). The Strategy will focus on delivering a measurable biodiversity net gain on the City Councils estate from a DEFRA metric baseline. This will be achieved through enhanced management of existing Local Nature Reserves and making parks and housing open spaces more hospitable to wildlife through creation of meadows, scrub and woodland.</p> <p>As part the strategy, the Council will also seek to engage and influence individuals, institutions and businesses to implement similar measures on their land to create a citywide network around the core designated sites.</p> <p>A number of other biodiversity projects were also progressed during 2019/20:</p> <ul style="list-style-type: none"> • Continued creation of long grass and meadow areas across formal parks managed by the Council. • Greater Cambridge Chalk Stream project – We have partnered with Cambridge Water to undertake an assessment of the pressures facing our chalk streams and prioritise action for investment and community involvement. • Logan’s Meadow Local Nature Reserve (LNR) extension – In autumn 2020 we will be working with the newly formed Friends group to consult on the doubling of the area of LNR and creation of new fen and floodplain habitats, including wet

Action	Update
	woodland, grassland, reedbeds and scrapes.
Implementing existing Local Plan water efficiency policies in new developments	The Local Plan requirement for water efficiency of 110 litres/person/day (or better) was secured on 17 residential planning applications. For non-residential schemes 10 achieved a 40% reduction in water useage, 2 a 50% reduction and a further 2 met a 55% reduction.

Appendix C – Potential pathways to net zero carbon – City Council

Action	Emissions impact (approx.)	Comment
Electrification of fleet + business mileage	-25%	Achievable within around 6 years (potentially), but likely to require significant capital investment, albeit potentially with reduced running costs. Agreed in principle for non-waste fleet at Environment & Community scrutiny Committee, June 2020
Energy efficiency measures & renewables in existing assets (<i>admin buildings, pools, community centres, sheltered housing etc</i>)	-25%?	Likely to be at significantly higher costs per tCO ₂ saved Potential to explore costs and benefits of investing in solar energy outside Cambridge
Office Accommodation Strategy (-5%?	Potential to rationalise administrative building estate further, depending on future needs assessment
<p style="text-align: center;">↑</p> Rationalisation of other energy consuming-assets <p style="text-align: center;">↓</p>	-X%?	As the council reviews and modernises its service delivery arrangements in the coming years, there may be options that further reduce energy consumption and emissions
<p style="text-align: center;">↑</p> Carbon Capture + “Offsetting”?	-Y%?	To achieve net zero carbon, we may need to consider a range of policy options for managing our emissions
New assets & service demands (<i>new council buildings and additional demands on council services from growing physical city and population</i>)	+Z%?	Cambridge is set to grow both physically and in population terms in the coming years – the Council will need to plan carefully how it serves those new communities in as low-carbon a way as possible

Appendix D – Potential pathways to net zero carbon – Cambridge

Action	Emissions impact	Comment	Agency
<p>Industry & other organisations: 49%</p> <p>Reduce usage (change business products, practices & processes – including air travel)</p> <p>Decarbonisation + Carbon Capture</p> <p>Energy efficiency</p>	???	<p>May require stricter Government legislation / regulation / fiscal incentives e.g. carbon budgets / pricing</p> <p>Will also respond to changing patterns of consumer demand</p> <p>Grid infrastructure will need reinforcement to allow electrification of heat & transport.</p>	<p>G</p> <p>R/B</p> <p>G/B</p>
<p>Domestic: 31%</p> <p>Reduce usage (behaviour change)</p> <p>Decarbonisation + carbon capture</p> <p>Energy efficiency (retrofit)</p>	???	<p>Likely to require significant national scale investment in retrofit + renewable heat + behaviour change (diet, heating)</p> <p>Likely to require legislation / regulation to mandate e.g. in private rented sector</p> <p>Planning policy will need to be allowed to set higher standards for new builds</p>	<p>G</p> <p>R</p> <p>G</p> <p>G/C</p>
<p>Transport: 20%</p> <p>Reduce usage (fewer trips; increase digital / remote working)</p> <p>Electrification</p> <p>Modal shift</p>	???	<p>Grid infra will need reinforcement to allow electrification of all vehicles (or development of hydrogen/alternative)</p> <p>Need modal shift to electric buses, CAM, cycling, walking etc.</p>	<p>G/B</p> <p>R/C/B</p>
<p>City Growth</p>	+Z%??	<p>Additional new homes may consume more energy, water and travel subject to mitigation measures; although densification of development (with homes close to jobs and other amenities), rather than dispersed development, <i>may</i> offer a spatial pattern that minimises the net carbon impact, not least from travel. These issues will be explored further as the council and our South Cambridgeshire partners develop the new joint Local Plan.</p>	C/R/B

KEY: G = Government;

C = Council;

B = Business;

R = Resident