

To: Cabinet
Date: 10 February 2021
Report of: Tim Sadler, Transition Director
Title of Report: Zero Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30

Summary and recommendations

Purpose of report: This report outlines how the Council will meet its goal to become a Zero Carbon Council by 2030 or sooner. This route map supports our Zero Carbon City goal by demonstrating bold action and leadership within the city on climate change.

Key decision: Yes

Cabinet Member: Councillor Tom Hayes, Deputy Leader and Cabinet Member for Green Transport and Zero Carbon Oxford

Corporate Priority: Pursue a Zero Carbon Oxford

Policy Framework: Council Strategy 2020-24

Recommendations: That Cabinet resolves to:

1. **Adopt the Zero Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30** at Appendix 1, which outlines how the Council will achieve its goal of zero carbon emissions across its estate and operations by 2030. This is in line with the commitment made by the Cabinet on 19 December 2019 in response to Oxford’s Citizens’ Assembly on Climate Change;
2. **Note** the anticipated shortfall in funding and resources to deliver the Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30, in the context of the challenging financial situation the Council faces due to COVID-19. The Council will need to make bids for external capital funding, additional match funding and support/grants to fund carbon reduction measures across its estate and operation;
3. **Note** that many of the “easy to achieve” carbon reduction measures have now been delivered, with a focus now needed on addressing difficult areas of decarbonisation such as of heat, particularly in relation to leisure centres; and
4. **Note** that every Council service area, all council members, teams, and members of staff have an active role to play in delivering the Zero Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30.

Appendices	
Appendix 1	Zero Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30
Appendix 2	Zero Carbon Council by 2030 Risk Register

Introduction and background

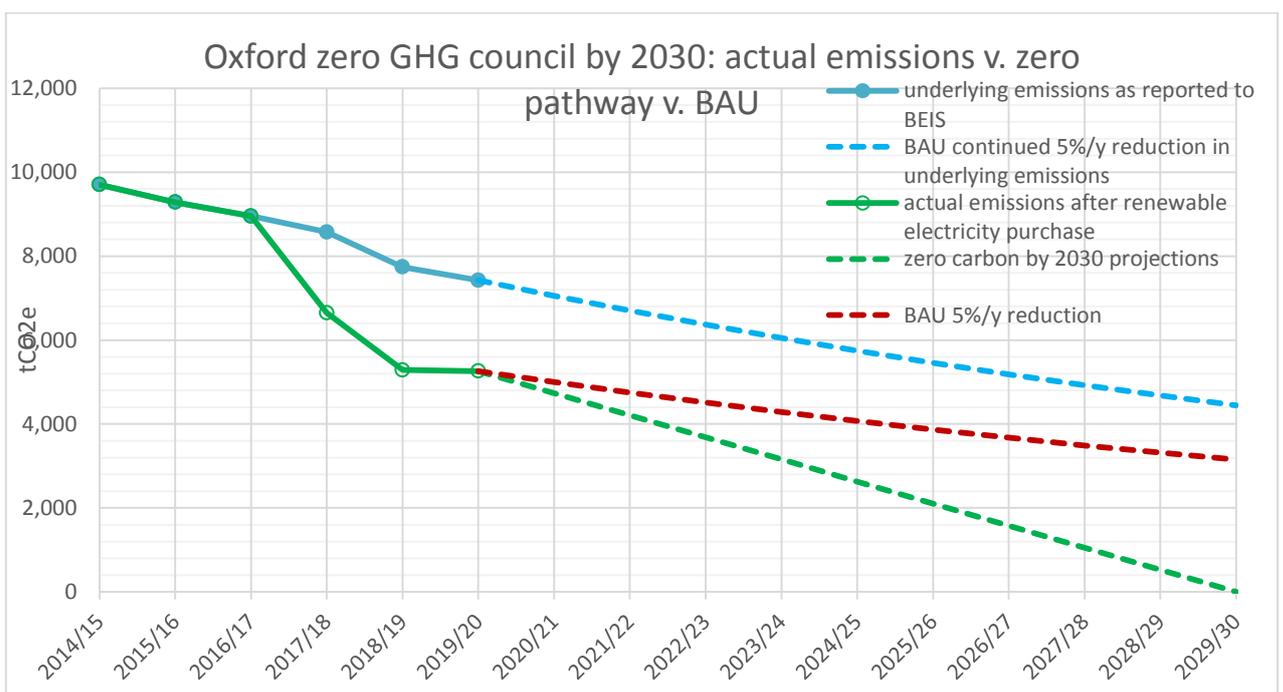
1. Oxford City Council declared a climate emergency in January 2019. In response to Oxford's Citizens' Assembly on Climate Change, the Council set out its commitment to become "net zero carbon", while developing detailed plans "for further projects to accelerate the reduction in the Council's underlying emissions to achieve the status of being a Zero Carbon Council by 2030 or sooner".¹
2. In 2021, the Council will become "net zero carbon" for its direct activities – i.e. where it pays the energy bills, delivered through the purchase of renewable energy and offsetting (in line with the Council's emerging offsetting policy). This target will complement this Carbon Management Plan and the acceleration of existing and new programmes to reduce the Council's underlying emissions to achieve a Zero Carbon Council by 2030 or sooner.
3. The Zero Carbon Council by 2030: 4th Carbon Management Plan, 2021/22 to 2029/30 ("the Carbon Management Plan") at Appendix 1 focuses on how the Council will achieve zero carbon emissions by 2030 across its estate and operations. Reaching the status of being "zero carbon" will require a doubling of the current rate of carbon emission reductions to ca10%/year, and mean addressing the difficult and/or expensive areas like the electrification of heat and fleet vehicles (i.e. stopping burning fossil fuels in the form of gas and fuel). In the absence of a fully decarbonised electricity grid, the Council will rely on green electricity purchase and local renewable energy generation to provide zero carbon electricity to power electrified heat and fleet vehicles. The transition to becoming "zero carbon" will mean that, year on year, the Council reduces its purchase of both green gas (as boilers are replaced with low/zero carbon heating technologies and approaches) and of offsets (as fleet vehicles are electrified).
4. Being a "Net Zero Council" will mean that until the Council becomes "zero carbon" by 2030 or sooner, it will be "net zero carbon" from 2021, subject to the consultation budget being approved, via the purchase of green electricity, green gas, and offsetting emissions from vehicle fuel use.
5. This new Carbon Management Plan deals primarily with Scope 1 emissions (gas and fuel use), Scope 2 (electricity purchased from the grid) and to a limited extent Scope 3 (for transmission and distribution of grid electricity, water consumption and business travel). These are the Council's operational emissions – where the Council pays the bills for its consumption and they can be more directly measured and reduced.
6. The Council is responsible for other Scope 3 emissions which are less directly measurable, such as emissions from the goods and services the Council procures,

¹ Cabinet Paper 19 December 2019

municipal and commercial waste sent to landfill and staff commuting. The targets outlined in the new carbon management plan do not address these Scope 3 emissions. The Council intends to quantify and better understand them as they will be significant. This work will also be aligned with development of a wider approach to tackling these Scope 3 emissions through the Zero Carbon Oxford partnership with an aim to make good progress on this in the first couple of years of the plan.

7. The Carbon Management Plan covers all buildings and operations where the Council pays the energy, fuel and water bills. Its audience is across all areas of the Council as a road map to delivery – every council member, service area, team and member of staff has an active role to play in delivering the Carbon Management Plan.
8. The ambition of becoming “zero carbon” by 2030 represents a significant step-change in the Council’s ambition and requires a doubling of current effort. Business as usual - with a 5% year on year reduction target - will get only about half of the way to “zero carbon” by 2030, as illustrated in Figure 1 below. The Council’s 2030 zero carbon target requires an average annual (absolute) emission cut of 10% or about 530tCO₂e per year. It is possible that a small amount of offsetting will be required in 2030 such as from irreducible emissions sources like water and public transport that currently make up ca 1% of the total emissions footprint. The Council’s ambition is to reduce offsetting to near zero, if it is technically and financially possible to do so.
9. The Council’s carbon emissions are around 1% of the total for the city, but the Council has an important role to play in leading by example across the city and further afield, and working together with others, sharing approaches to decarbonisation. The decarbonisation of the Council’s estate by 2030 will demonstrate bold action and leadership within the city on climate change and underpin our establishment of a Zero Carbon Oxford partnership.

Figure 1: Oxford City Council’s emissions - business as usual compared to a zero carbon by 2030 pathway



Zero Carbon Council Vision

10. The “Zero Carbon Council” vision is that by 2030 the activities of Oxford City Council will no longer contribute to a worsening climate crisis from its use of gas, electricity, water and fuel (Scope 1, Scope 2 and some Scope 3 emissions), with annual carbon emissions having been reduced to zero.
11. It will no longer burn fossil fuels in its vehicles and so no longer contribute to local air pollution which has negative impacts on public health, thereby furthering this Council’s new Air Quality Action Plan, 2021-2025, which sets out plans to go much further than the current legal target for air pollution by setting out a city-wide air pollution reduction target. Oxford City Council’s operational buildings will not burn fossil fuel gas for heating or hot water – services for buildings will use electricity from renewable sources. Gas boilers will have been replaced by alternatives, such as heat pumps or alternative zero carbon heating fuels. Renewables will power the Council’s estate and local renewable projects will be supported by the Council through the use of Power Purchase Agreements.
12. The Council’s vehicle fleet will have transitioned to be all electric or zero emission, fuelled by electricity from renewable sources.
13. The Council will have minimised greenhouse gas (GHG) emissions arising from spend on supplies and services, staff commuting and operational waste (Scope 3 emissions).
14. Where there remain irreducible emissions the council will offset those emissions in an appropriate way, following recognised best practice.

Progress to date

15. The Council has been managing energy and carbon emissions from across its estate and operations since 2008. Significant progress has been made towards zero carbon status, with an average 5.4% per year reduction in underlying emissions over a five-year period to 31 March 2020. The Council has been exceeding its ongoing target of implementing measures to reduce CO₂ emissions by 5% of its previous year’s emissions. Highlights to date include:
 - **Investing to reduce carbon emissions using the Salix recycling loan fund**, which has delivered a range of carbon reduction projects to a value of £1.8m, saving an estimated £440k/year in energy bills and an estimated reduction of CO₂ emissions by 2000tCO₂ per year. The net benefit to date from the Council’s £0.5m investment is a £6.4m and growing saving.
 - **Dynamic energy management** - eliminating excess energy/water consumption through monitoring and targeting, saving the Council in excess of £50k per year in unnecessary energy spend and CO₂ emissions.
 - **Solar PV across the Council’s estate** - over 1000kWp of Solar PV installations, equivalent to over 10% of the Council’s current rate of electricity consumption.
 - **Electrification of the Council’s fleet of vehicles** - plans to switch over 25% to electric by 2023

- **Energy Bureau service key facts/examples** - paperless processing of the ca£1.6m annual spend in energy and water bills per year, saving on average over £80k/year in corrected billing errors.
- **Business efficiency gains:** - the value of electronic bill processing to the organisation saving c.£210,000 per year from the estimated total paper invoice processing cost
- **The purchase of 100% certified REGO renewable electricity** - helping to create a market for the installation of additional renewable capacity on the grid.
- **Participating in world leading energy/carbon reduction related initiatives such as Energy Super Hub Oxford (ESO) and Local Energy Oxfordshire (LEO)** -these projects will work to install the World's largest commercial hybrid energy storage system (saving an estimated 20,000 tonnes of CO2 per year by 2021, rising to 44,000 tonnes per year by 2032) and ease regional constraints on the national grid by smoothing the peaks and troughs in demand and enable more renewable energy capacity.
- **Supporting Oxford's Low Carbon Hub** and helping enable many local community projects to go ahead. e.g. the Solar Schools programme.
- **Oxford City Council won the Local Energy Leadership Award** – December 2019 – REGEN Renewable Futures and Green Energy Awards

Getting to “Zero Carbon” by 2030

16. Many of the straightforward carbon reduction measures available to the Council have been implemented through lighting upgrades, insulation measures, heating plant upgrades and installing solar PV on many of its buildings.
17. In 2017/18 Oxford City Council committed to buying certified green electricity for all of its electricity supplies, through Renewable Energy Guarantee of Origin (REGO) certified supplies. This decision to purchase green grid electricity resulted in a steep drop in the Council's carbon/GHG emissions.
18. Achieving zero emissions will require investment in technically harder – and expensive – measures, as hundreds of existing gas boilers need to be replaced with electric heat pumps, or other near-zero carbon approaches. Replacing combustion engine vehicles with electric options in the Council fleet becomes ever more cost effective as the electric vehicle industry rapidly evolves, and with it already being the cheapest option over fleet vehicle lifetime. The main focus of Council activity will be to effect a rapid switch to decarbonising its heating systems and fleet vehicles.
19. The new Carbon Management Plan demonstrates how the Council will prioritise emissions reduction based on the significant energy use hierarchy, i.e. targeting the biggest energy and fuel consumers, and therefore carbon dioxide emissions sources, first. This will include:
 - Carrying out detailed investment grade energy audits in its highest energy consuming buildings to rapidly advance deeper carbon reductions
 - Decarbonising heat in its highest gas consuming buildings through building fabric and air tightness improvements, as well as a shift to high efficiency electric heating systems such as heat pumps
 - Installing more solar PV across its estate and operations and investing and purchasing electricity from local solar farms on longer term Power Purchase Agreement (PPA) contracts

- Electrifying the fleet of vehicles and moving to low carbon forms of transport.
- Implementing staff carbon awareness campaigns to raise awareness of the benefits and opportunities to driving down carbon emissions in the Council's estate and operations.

20. The “zero carbon” goal presents a number of significant technical and financial challenges. In terms of the technical issues, replacing existing heating technologies (primarily fuelled by gas) will require significant adaptation of many existing operational buildings as the Council moves to electrification of heat or use of alternative heating fuels (e.g. hydrogen and/or biogas). Electrifying the fleet of vehicles involves changing over 300 vehicles (including refuse trucks) to electric or alternative fuelled vehicles. This will be costly and technically challenging. In terms of the financial commitment from the Council, the Carbon Management Plan is not yet fully financed and will require significant injections of funding for the Council to achieve its goal (see financial discussion below) from internal and external sources.

21. It will be also very important for the Carbon Management Plan and the Council's Asset Management Plan to align closely in coming years and for relevant teams of officers to continue to work collaboratively to achieve the challenging collective aims of both plans. Towards closer alignment of carbon management and asset management plans, a working group with staff from the Environmental Sustainability, Corporate Assets and Property Services teams has been formed to help embed carbon emissions reductions across all of the Council's buildings – including commercial and housing stock – as part of the delivery response to the Council's commitments following the Climate Change Citizens' Assembly. Support for developing carbon reduction projects across the Council's operational buildings is also being assisted with input from the Asset Review Group (ARG) to provide further guidance on strategic delivery of carbon reduction projects/Salix projects pipeline. Regular monthly progress meetings of officers also provide input to help progress with further detailed guidance on implementation, and support in identifying new potential pipeline carbon reduction projects.

22. The Carbon Management Plan will also cover the important aspect of behaviour change to raise awareness of measures all council staff can take to reduce energy, fuel and water consumption (including whilst home working) – the Council will make use of carbon literacy toolkits and support from government to get key messages across and encourage action. It will also seek to assess the net carbon impacts of increased home-working due to COVID and new ways of working

Environmental Sustainability implications

23. The Carbon Management Plan outlines how the Council will become a Zero Carbon Council, one of the Council's key corporate priorities under the 'Pursue a zero carbon Oxford' theme. It will provide a framework for the Council to deliver progress towards the “zero carbon” goal by 2030, contribute towards minimising the Council's environmental footprint, and demonstrating leadership across the city.

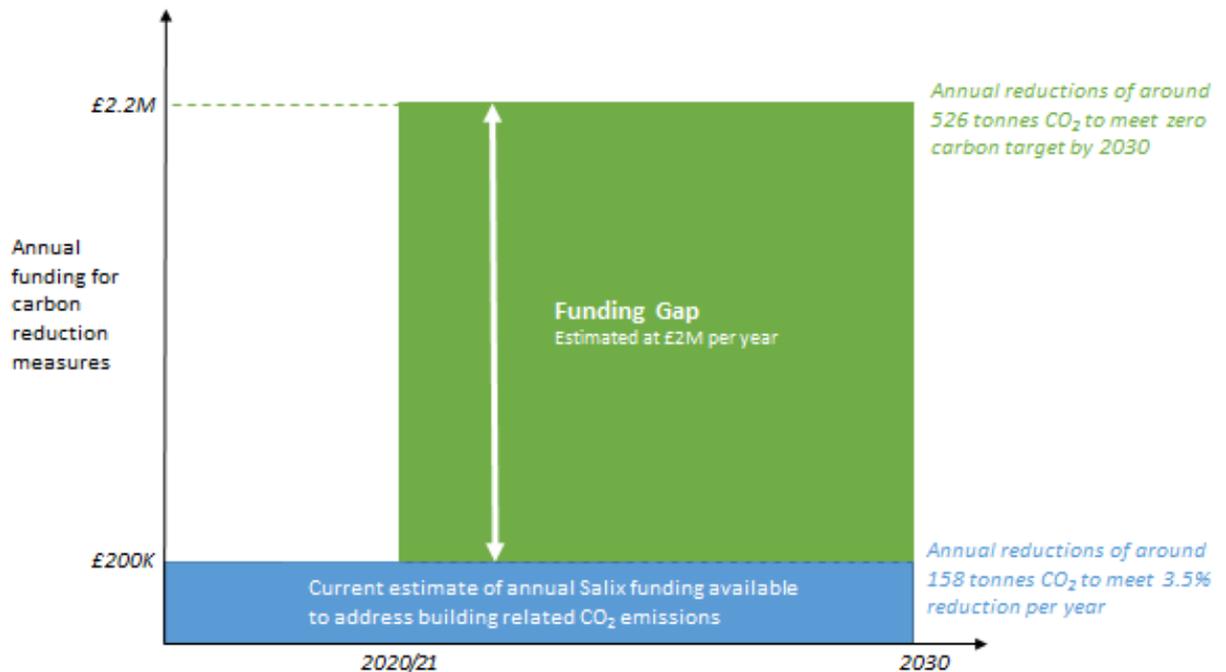
Human resources implications

24. Resources within the core delivery team (the Energy and Natural Resources Team within Environmental Sustainability) will not be sufficient to achieve these targets alone. Full Council-wide engagement, under the direction of the Zero Carbon Oxford Steering Group, by those key individuals and teams that have control and

influence over energy, fuel and water consumption will be crucial to delivering progress against the challenging zero carbon by 2030 goal.

Financial implications

25. The Council’s target to be “zero carbon” by 2030 requires a significant injection of funds to allow the required average of c.526 tCO₂e/year of carbon reduction – every year until 2030 - to be achieved (assuming the Council’s estate and operations remain broadly the same).
26. The main mechanisms for funding low carbon technology fixes across the estate in the period to the end of 2029/30 will be the continued use of the existing Salix £1m revolving loan fund (yielding approximately £100k to £160k available to spend per year) and any available from the Salix-Plus fund (or alternative enabling funds) subject to budget bids.
27. Based on a recent exercise to cost up a combined heat pump/photovoltaic project at a key leisure site, the chart below provides an illustrative view of the scale of the estimated funding gap for the council to meet zero carbon by 2030 estimating a ca £2.2million investment required **each year** to 2029/30.



28. The COVID 19 pandemic has significantly impacted on the finances of the Council. Estimated losses of income are around £29million over the period of the medium-term financial plan (MTFP) in the absence of sufficient central government funding to cover incurred costs. The Council will draw on a minimum of £12million from its reserves and balances in addition to finding additional efficiency savings of around £4 million per annum as well increasing company dividend returns in order to balance the plan. Plans to progress the council to a zero-carbon position by 2030

were put on pause in June 2020 as part of our measures to mitigate the effect of the pandemic, and these have just been brought back in line. The track record prior to COVID 19 has been strong as outlined in paragraph 14. However, based on the current financial position of the Council and that forecast in the MTFP against a background of continued financial uncertainty, the gap identified of £2.2 million per year up to 2030 will be difficult to be bridge by the Council alone without significant additional Government financial support and private sector investment in the city which furthers this Plan.

29. External grant funding will be sought, such as from the £1bn government Public Sector Decarbonisation Scheme (PSDS) to tackle CO2 reductions in public sector buildings. The Council submitted a number of bids to the scheme and was successful in being offered grant money in 2020 for an innovative heat pump and Solar PV project and further grant for heat pump and solar projects at five other sites on the council's carbon footprint. This is subject to another report on this agenda. Similar external funds like this will be crucial in the coming years to achieving the "zero carbon" goal and there is no commitment to or road map for further government funding schemes at present.
30. The Council's Salix revolving loan fund, due to external imposed rules, is only able to be used in buildings and other sites within the estate – where funding paybacks must, in general, be within 10 years. Additional Council funds to enable investment in longer term payback measures, and measures which fall outside of the Salix rules (fleet technologies, water efficiency or reduction in operational waste sent to landfill) are subject of budget bids.
31. Implementing zero carbon projects presents significant business opportunities for Oxford Direct Services Ltd to deliver and build expertise in this potentially high growth area, which can increase income and company dividend returns to this Council. This Council seeks to develop a local green economy through our leadership of the economic recovery from COVID.

Legal issues

32. Continuing progress in the area of energy and carbon reduction is key to meeting international and national legislative requirements and government guidance including those in the BEIS Emissions Reduction Pledge (2019), the Climate Change Act 2008, Housing and Planning Act 2016, Heat Networks (Metering and Billing) 2014 as well as the UK requirements under the Energy Performance of Buildings (England and Wales) Regulations 2012 (e.g. Energy Performance Certificates, Display Energy Certificates) that remain in UK law post-Brexit. The Council's carbon emissions reduction activities also continue to be published annually following government guidance in publishing an annual carbon emissions report in line with the Government's greenhouse gas reporting requirements contained in the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013. The energy and carbon markets are continually changing and developing, having a robust energy and Carbon Management Plan, and associated management systems, in place will develop on-going Council resilience and preparedness to legislative changes in the sector as they develop. It will also help the Council realise future opportunities that arise out of changes in legislation in this area.

Level of risk

33. The risks to the Council are failure to deliver on the goals agreed following the declaration of a climate emergency and Oxford's Citizens' Assembly on Climate Change, and miss opportunities for continual reduction in energy, fuel and water spend and reduce the overall carbon footprint of the organisation. Opportunities for mitigating future cost and tax increases around energy, fuel and water consumption (carbon emissions) may also be missed. Other risks highlighted relate to failure to meet the corporate target should, for example, resources available diminish or funding not be won during the course of the implementation phase leading to reputational damage.
34. A risk register is attached (see Appendix 2), outlining the potential risks including a risk to the future of the Salix revolving loan fund if it is not possible to implement projects at the required rate of spend by the Salix administration/rules. (Potentially causing the Council to have to return a portion of the £500k match fund won since 2008 that has assisted in meeting the Council's CO₂ reduction targets to date.)

Equalities Impact

35. Comprehensive consultation with the citizens of Oxford from a representative sample across all groups has led to a clear mandate to rapidly accelerate the reduction of the Council and city carbon emissions towards becoming "Zero Carbon". Energy and carbon management and reducing the Council's carbon emissions is the responsibility of all members, staff and contractors.
36. In terms of an Equalities Impact Assessment, the clear mandate from Oxford's citizens from the Climate Change Citizen's Assembly has included representatives from a broad cross-section of groups and ages across the city. There are no adverse impacts on any part of the community; however Oxford City Council is mindful of the important leadership role it plays across its communities. Energy costs have a disproportionate effect on those on the lowest incomes so it is vital that the Council communicates clearly the reasons for managing energy and reducing carbon emissions.

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Background Papers: None

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