

Report Title:	Council Carbon Emissions – Plan for Delivery
Contains Confidential or Exempt Information	No - Part I
Cabinet Member:	Councillor Stimson, Cabinet Member for Climate Action and Sustainability
Meeting and Date:	Cabinet – 27 October 2022
Responsible Officer(s):	Chris Joyce, Head of Infrastructure, Sustainability and Economic Growth Andrew Durrant, Executive Director of Place
Wards affected:	All

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REPORT SUMMARY

The Council's Environment and Climate Strategy sets out an ambitious carbon reduction target for the Council's operational emissions. Between 2018/19 and 2025/26, the Council has committed to reducing its emissions by 50%, as part of our longer-term plan to reduce emissions to net zero by 2050 at the latest.

This paper sets out how the Council will achieve its target through a mix of operational changes, buildings improvements and grid decarbonisation. It outlines the work that has already been completed and planned for this financial year.

The paper also identifies the required level of emissions reductions required to achieve our corporate plan goals and a programme of works to achieve that. This is based on the feasibility studies undertaken by independent specialists to identify opportunities for decarbonisation of the council's estate.

The paper further out how the plan will transition the Council away from fossil fuel heating systems, improving the Council's energy security and mitigating against the significant price rises being seen on international energy markets.

1. DETAILS OF RECOMMENDATION(S)

RECOMMENDATION: That Cabinet notes the report and:

- i) Approves the plan to deliver a 50% carbon reduction in the Council's emissions by 2025/26 based on a 2018/19 baseline in line with the Council's Environment and Climate Strategy.**

2. REASON(S) FOR RECOMMENDATION(S) AND OPTIONS CONSIDERED

Options

Table 1: Options arising from this report

Option	Comments
Note the report and support the work to achieve the Council's carbon reduction targets. This is the recommended option	This will support our Environment & Climate Strategy and Corporate Plan priority to take action to tackle climate change as well as the specific plan goal to reduce the council's own emissions.
Develop a new plan to reduce carbon emissions by 50% by 2025/26	This will delay action and put at risk the delivery date
Not approve the plan	This will result in the failure to meet a Corporate Plan goal

Context

2.1 Taking action on climate change is a priority of the Council in its Corporate Plan. There are three goals that directly link to this plan including:

- A decrease in the borough and council's own emissions by 50% by 2025 – and net zero by 2050, at the latest.
- The council commits to spend £1 million on reducing emissions through energy efficiency improvements over the period, and will seek external funding to accelerate the plans.
- Enable an increase in renewable energy generation in the borough, by 10 fold by 2026 (from a baseline of 13,067 MWh in 2018).

2.2 The Corporate Plan states that our approach will be to, "Make the most effective use of resources - delivering the best value for money." The Council's energy spend is very significant and ensuring we use energy efficiently is an important element of delivering on that commitment to deliver best value to residents.

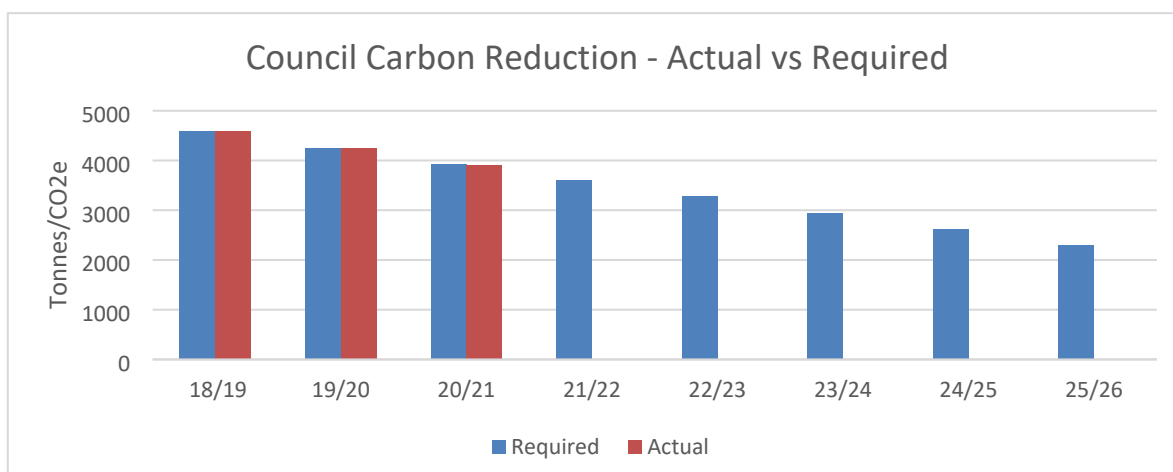
2.3 In its Environment and Climate Strategy, the Council made a commitment to a science-based carbon reduction trajectory both for the Borough and for its own organisational emissions. The Council's organisational carbon emissions in 2018/19 were 4,585 tonnes / CO₂e. A 50% reduction target by 2025/26 therefore requires a reduction of 2292.5 tonnes / CO₂e

Baseline

2.4 The Council has already reported emissions 3903tonnes/CO₂e for 2020/21 and will report shortly on its 2021/22 emissions once all the data is available. Using a straight-line trajectory between 2018/19 and 2025/26, the Council is emitting less carbon emissions than would be expected at this stage (3903 (actual) vs 3930 (required by the trajectory) tonnes/CO₂ in 2020/21). Initial analysis suggests the Council remains ahead of target for 2021/22.

2.5 The Council has achieved these reductions through a number of projects that have been delivered over the last few years. These include

- Replacement of lighting systems with LED's across the majority of Council buildings.
- Further roll out of LED street-lighting
- Installation of new double glazed windows at its Tinkers Lane site and schools such as Alexander First, All Saints Junior, Alwyn Infant, Holy Trinity (Cookham) and Wessex Primary.
- Improved use of IT and a positive approach to flexible working to reduce the need for travel
- Solar photovoltaic installations across a number of schools
- Awareness raising and education support with school children and staff to support behaviour change



Planned Projects - Schools Energy Efficiency Upgrade Project – 2022/23

2.6 Following the preparation of a bid by the Sustainability and Climate Change Team, Property Services and Achieving for Children, the Council was successful in a £1.567m bid for capital funding from the Public Sector Decarbonisation Scheme Phase 3. The schools included in the application were Alexander First, Boyne Hill Infants, Braywood First, Courthouse Junior and Oakfield First. All these schools used oil-fired boilers which are both carbon intensive and expensive to run.

2.7 The total project cost is estimated to be approximately £2.2 million. This will be confirmed once detailed design work is completed. Securing the grant funding meant £476k could be released for other projects in schools.

2.8 The deadline for project completion is 31st March 2023, subject to installer capacity, COVID-19 and access to each school. The project team are working hard to mitigate any risks to the delivery schedule of the project.

2.9 The works, by school, are set out in Table 3:

Table 3: Schools projects being delivered in 2022/23

Building name	Fabric Measures (these include improvements to the building such as insulation, windows or pipework)	Heat Generation
Boyne Hill C of E Infant School, Maidenhead	<ul style="list-style-type: none"> ○ Heating - distribution pipework improvements ○ Hot water - distribution improvements ○ Insulation - dry wall lining, roof insulation, draught proofing, Heating pipework insulation (internal) ○ Double glazing with metal frames ○ Solar PV 	Air source heat pump (air to water)
Courthouse Junior School, Maidenhead	<ul style="list-style-type: none"> ○ Heating pipework insulation (internal) ○ Heating - distribution pipework improvements 	Ground source heat pump
Oakfield First School, Windsor	<ul style="list-style-type: none"> ○ Heating pipework insulation (internal) ○ Heating - distribution pipework improvements ○ Double glazing with metal frames ○ Solar PV 	Ground source heat pump
Alexander First School, Windsor	<ul style="list-style-type: none"> ○ Heating pipework insulation (internal) ○ Heating - distribution pipework improvements ○ Double glazing with metal frames ○ Solar PV 	Ground source heat pump
Braywood First School, Windsor	<ul style="list-style-type: none"> ○ Heating – distribution pipework improvements ○ Insulation – Draught proofing, dry wall lining, roof insulation, heating pipework insulation (internal) ○ Double glazing with metal frames ○ Hot water distribution improvements ○ Solar PV 	Air source heat pump (air to water)

2.10 The total carbon saving for these projects is estimated to be 185 tonnes/CO₂e. To maximise the educational benefit of the projects, the Council is committed to engaging with the schools and children. The environmental education team based out of the Council's Braywick Nature Centre are looking how they would deliver sessions/workshops.

Proposed Projects

2.11 Feasibility work has been undertaken to understand opportunities on the Council's estate to reduce energy and carbon emissions including across majority of the school's estate. Further work will be undertaken over the next 12 months in more buildings.

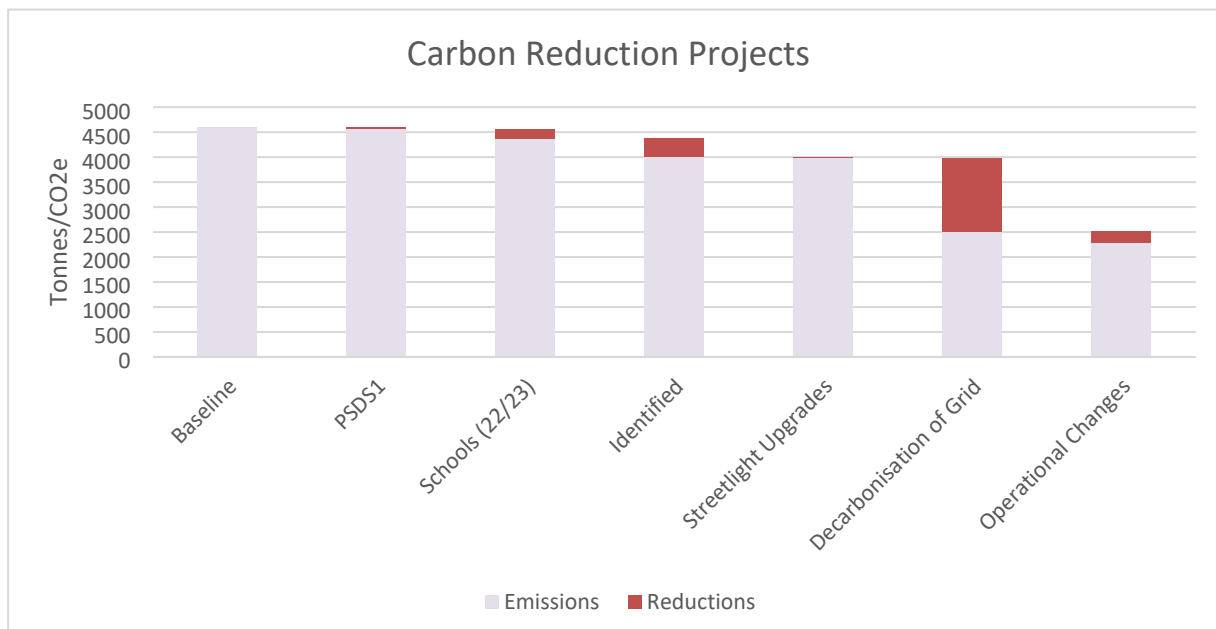
2.12 The table below details a summary carbon reduction projects either undertaken, planned or identified across the Council's estate. These have been identified by independent, external consultants appointed by the Council through money secured from the Government's Low Carbon Skills Fund Phase 1 and Phase 2.

Table 2: Carbon Reduction Projects Identified

Project Detail	Tonnes/CO2e Saved	Status
Lighting Upgrades in 12 schools, Maidenhead Library and Tinkers Lane Depot. This was funded through the Public Sector Decarbonisation Scheme.	21	Delivered
Heating, fabric and solar projects across 5 schools. These schools were identified as using mainly heating oil with end-of-life heating systems. This work is being funded jointly by the Council and the Public Sector Decarbonisation Scheme (Further detail on these works is provided below).	185	Underway for delivery during 2022/23
Heat decarbonisation surveys have been conducted across 30 buildings to identify how best to reduce emissions. This work has been completed recently and will be prioritised to ensure we undertake work when most appropriate.	376	Identified
The Council has converted most of its streetlights to LED however there are still a number remaining which will be undertaken this year.	20	Planned for 2022/23
Total	602	

2.13 These projects combined with the carbon savings from decarbonisation of the grid mean the Council has identified 2072 of the 2295.5 tonnes / CO2e. This represents 90% of the savings required.

2.14 An important factor in whether the Council achieves its carbon reduction target will be how successful the country is in decarbonising grid electricity. Over the last four years, grid electricity has decarbonised by, on average, approximately 11% per year. If this continues and using a more conservative 10% figure, grid decarbonisation will contribute 1470 tonnes / CO2e to the overall 2292.5tonnes / CO2e reduction required.



2.15 Work has been undertaken to look at how the Council can make operational / behavioural changes to reduce its organisational utility costs. This has been possible through improved metering that has been rolled out, giving the Council better visibility of its energy and water consumption. In light of significant energy price rises, this work will be accelerated to provide immediate cost and carbon savings. These could include centralising utilities management to enable better identification of excess energy consumption, reducing out of hours consumption across Council facilities and optimising heating systems to run more efficiently.

2.16 At this stage, the analysis indicates that the council is on track to achieve its operational carbon reduction targets.

3. KEY IMPLICATIONS

3.1 The proposed works to the council estate will support delivery of an important Corporate Plan goal. This paper is not seeking approval for funding at this stage, as this will need to be assessed as part of the Council’s capital programme process and the normal approval of the budget through Cabinet and Full Council.

3.2 Individual business cases will be developed that set out the capital and revenue funding implications. These will be assessed on a case by case basis to ensure there are robust delivery and funding plans and that the projects represent value for money.

Outcome	Unmet	Met	Exceeded	Significantly Exceeded	Date of delivery
50% reduction in carbon emissions by 2025/26	< 50% reduction by 2025/26	50% reduction by 2025/26	> 50% reduction by 2025/26	> 50% reduction earlier than 2025/26	31 st March 2026

4. FINANCIAL DETAILS / VALUE FOR MONEY

4.1 The proposed approach to delivering the programme will be to maximise external funding. This will include further funding bids to the Public Sector Decarbonisation Fund, which is expected to reopen for a further round later this year. The council has been successful in securing funding from the previous two rounds for both capital projects and to deliver feasibility studies to assess decarbonisation potential.

4.2 We will prioritise investment where capital spending would still be required due to heating and other systems coming to the end of their life. Where appropriate other funding such as schools grant funding, CIL and our own carbon offsetting fund will be used to minimise the need for borrowing to fund the projects

Planned Project Costs

4.3 The Council secured a grant from government of £1.567 million which combined with funding from the School Condition Allocation Grant ensures the schools energy improvement projects during 2022/23 are funded. This was agreed by Full Council on the 26th April 2022.

4.4 The Project team, made up of Officers from Sustainability & Climate Change, Property Services and AfC, will continue to work closely to ensure we match funding applications to the school's improvement programme. This will maximise the funding available for deliver carbon reduction projects in a similar way to has been achieved in 2022/23.

Proposed Project Costs

4.5 The total cost of the work that has been identified by consultants to achieve the 376tonnes/CO₂e is £21,836,200 which will need to be invested between now and 2025/26.

4.6 Nearly 80% of that total is heating system interventions. The Council will prioritise the replacement of heating systems at the end of their life. This ensures the work is undertaken as cost effectively as possible as much of the work and capital spend will be required regardless.

4.7 It's likely that significant further grant funding will be secured by the Council to deliver its carbon reduction programme.

4.8 There are a variety of sources of funding that the Council can use to deliver the works set out which include;

- ii) External grant funding (E.g. PSDS)
- iii) Schools Allocation Grant
- iv) Section 106 / CIL
- v) Carbon Offsetting Fund
- vi) Community Energy Funds
- vii) Internal Capital Funding

- 4.9 The Council will prioritise external grant funding to ensure best value for residents.
- 4.10 Where internal capital funding is required, this will be subject to the capital funding approval process. This will ensure that individual projects represent value for money. The Council has invested in the capacity of the Sustainability and Climate Change Team to manage projects in partnership with officers from Property Services and Achieving for Children therefore there are no revenue implications for delivering this scheme.
- 4.11 Where appropriate, the Council will look to work with local partners to deliver carbon reduction projects. As an example, the Council has worked closely with Maidenergy in the past to deliver solar photovoltaic projects on schools.
- 4.12 There is significant volatility in energy prices currently which has been made worse by the invasion of Ukraine. This makes forecasting estimated savings from projects difficult.
- 4.13 The data provided from consultants estimates the energy cost savings from fabric improvements will be £80,700 and solar installations will be £14,300. There is likely to be an increase in energy costs when undertaking heating system improvements as we move away from fossil fuels. This is due to gas currently being a cheaper source of fuel than electricity however the difference is predicted to narrow in the medium term. This however is likely to be offset by the fabric and solar savings and will provide better resilience against international energy markets.
- 4.14 The transition away from fossil fuel-based heating systems better protects the Council from international energy markets. Whilst electricity costs are linked, the increasing renewable energy capacity in the country and the borough provide more stable energy supplies. The Council is forecasting the gas price increase to be far larger than for electricity. This provides important stability and security to the Council and mitigates against the significant price rises we are seeing in international markets.
- 4.15 If any of the projects require funding from borrowing there would be a revenue funding implication. Although Cabinet is not being asked to approve the funding for any particular project, an indicative revenue cost has been set out for context. Assuming the Council needs to fund 25% of the total cost (with the remainder coming from external grant funding), the cost would be approximately £650,000/annually over a ten-year period.

5. LEGAL IMPLICATIONS

- 5.1 The Project Team for delivery of the Schools Energy Efficiency Upgrade Project have worked closely with Procurement to ensure the work is procured in line with the Council's constitution. This would be the case for any future projects delivered as part of the programme.
- 5.2 The Council has the right to undertake the work detailed in this paper and there are no further legal implications.

6. RISK MANAGEMENT

6.1 Table 6 details a number of the specific project risks that are likely to be relevant as we manage projects going forward. These are based on our current experience of delivering projects across the Council's estate.

Table 6: Impact of risk and mitigation

Risk	Level of uncontrolled risk	Controls	Level of controlled risk
Installer capacity and availability The availability of installers could be a risk as the pandemic has increased the pressure on enough trained installers for the surplus works required.	Moderate	Fortnightly meetings with the project management team to discuss any delays and issues of installer availability. There is ongoing work across Berkshire with educational facilities such as BCA and Newbury College to help train more qualified installers.	Low
Material supply The supply of materials could be a risk as the pandemic has increased the pressure for resources and has been a concern for the industry over the last two years.	Moderate	Fortnightly meetings with the project management team to discuss any delays and issues concerning the supply of materials, supply chain difficulties and material delivery challenges.	Low
Project timeline The project timeline becoming a risk is a minor concern at this stage as the deadline is 31 st March 2023. This will most likely become a concern if issues such as installer and material availability, delay the projects progression.	Low	Fortnightly meetings with the project management team to discuss any delays and issues concerning the availability of qualified installers, supply of materials, supply chain difficulties, material delivery challenges. The project forecasts will also be updated regularly to reflect up to date expectations.	Low
Decarbonisation of grid electricity	Low	The government remain committed to delivering net zero. There are	Low

<p>The UK has been very successful in decarbonising electricity generation through a reduction in coal generation and an increase in renewables. There is a risk that if this progress slows or reverses because of national or international events, emission reduction targets will be more difficult to achieve.</p>		<p>significant new renewables projects in development across the country. The Council will keep grid decarbonisation under review and can look to increasing renewables generation across its estate if required.</p>	
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6.2 In addition to the project specific risks, there are a number of programme risks. The main one focuses on availability and success of securing government funded to deliver the programme. As the Environment and Climate Strategy set out, the work to deliver significant carbon reduction requires the support of central government. Whilst the Council has a strong track record of securing funding and central government has committed to achieving net zero, any change in national policy will impact on the Council's ability to reach its carbon target.

7. POTENTIAL IMPACTS

7.1 Equalities. Climate Change will effect the most vulnerable in society and therefore taking action to reduce carbon emissions is an important equality issue. Further, the work to improve schools will ensure children in the Borough are taught in low carbon, efficient schools.

7.2 Climate change/sustainability. The work detailed in this paper will deliver a headline target from the Council's Environment and Climate Strategy. It will significantly reduce the Council carbon emissions in line with the science and will demonstrate important leadership on climate change in the Borough.

7.3 Data Protection/GDPR. There are no data protection/ GDPR implications. No personal data will be used.

7.4 The projects detailed will deliver important improvements to the Council's estate. The condition of buildings will be improved making them better places to work/study in line with the Council's Value of investing in strong foundations.

8. TIMETABLE FOR IMPLEMENTATION

8.1 Implementation date if not called in: Immediately.

Officers will prioritise the identified projects to ensure an effective delivery plan is established. Preparations will also be made for further funding rounds of the Public Sector Decarbonisation Scheme.

9. APPENDICES

9.1 This report is supported by 1 appendix:

- Appendix A – Equality Impact Assessment

10. CONSULTATION

Name of consultee	Post held	Date sent	Date returned
<i>Mandatory: Statutory Officers (or deputies)</i>			
Adele Taylor	Executive Director of Resources/S151 Officer	13/10/22	14/10/22
Emma Duncan	Deputy Director of Law and Strategy / Monitoring Officer	04/08/22	04/08/22
<i>Other consultees:</i>			
<i>Directors (where relevant)</i>			
Duncan Sharkey	Chief Executive	04/08/22	05/08/22
Andrew Durrant	Executive Director of Place	04/08/22	16/08/22
<i>Heads of Service (where relevant)</i>			
Chris Joyce	Head of Infrastructure, Sustainability and Economic Growth		

Cllr Stimson	Cabinet Member for Climate Action and Sustainability	Yes
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REPORT HISTORY

Decision type:	Urgency item?	To follow item?
Non-key decision	No	No

Report Author: James Thorpe, Sustainability and Climate Lead
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