Service Delivery Committee	Tuesday, 14 March 2023	Matter for Information

Report Title: **Climate Change Baseline Study**

Report Author(s): **Christopher Harrison (Climate Change Officer)**

Purpose of Report:	To report the outcomes of the Climate Change Baseline Study for consideration and comment.
Report Summary:	Oadby and Wigston Borough Council is committed to playing its part in responding to the growing evidence that urgent action is required to respond to global warming. The Council has been working with APSE (Association of Public Service Excellence) Energy to produce a 2019/20 Climate Change Baseline Study to measure the carbon footprint for Council operations and to provide a trajectory report to include decarbonisation scenarios and recommendations for net-zero. The Council's carbon footprint of 1,651 tCO2e has been calculated using the best data that was available to the Council during the reporting year. The three highest emitters are leased assets, gas boilers, and vehicles. To achieve net-zero by 2030 the report identifies a number of interventions including insulation, heat pumps, solar panels, LED lighting and electric vehicles to reduce emissions, with off-setting recommended for the most difficult areas. The forecast capital cost for the most ambitious net-zero scenario is £13.3m, which includes all boilers replaced with heat pumps delivering a carbon emissions reduction of over 90% from the 2019 baseline. This is not a premium cost as the calculations do not consider planned spending (e.g. for building refurbishment) by the Council over the time period in question. The Council would prioritise decarbonisation actions in line with available resources and look to utilise further funding opportunities when they arise. A 2030 net zero trajectory was selected for discussion purposes; many other councils have a 2030 target and this report will allow for an evidence-based discussion on what is the best course of action for OWBC. The intention is to use this study to feed-in to a full review of the Council's current Environment Strategy and Action Plan with a stronger focus on climate change and reducing carbon emissions.
Recommendation(s):	**That the content of the report and appendices be noted.**
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Corporate Objectives:	Building, Protecting and Empowering Communities (CO1) Providing Excellent Services (CO3)
Vision and Values:	Accountability (V1) Innovation (V4) Teamwork (V3)
Report Implications:-	
Legal:	There are no implications directly arising from this report.
Financial:	If all the interventions recommended in this report are implemented it is estimated that a financial budget of approximately £13.3million is required to reach net zero carbon by 2030 for corporate assets However, implementing these initiatives will financially benefit the Council with savings of £318,600 in 2030.
Corporate Risk Management:	Organisational / Transformational Change (CR8) Reputation Damage (CR4)
Equalities and Equalities Assessment (EA):	There are no implications directly arising from this report. EA not applicable
Human Rights:	There are no implications arising from this report.
Health and Safety:	There are no implications arising from this report.
Statutory Officers' Comments:-	
Head of Paid Service:	The report is satisfactory.
Chief Finance Officer:	The report is satisfactory.
Monitoring Officer:	The report is satisfactory.
Consultees:	The Council have been working with APSE (Association of Public Service Excellence) Energy to produce a climate change baseline study for the reporting year April 2019 to March 2020 (pre-covid).
Background Papers:	None.
Appendices:	1. Climate Change Baseline Study 2. Climate Change Baseline Study Powerpoint

1. Background

1.1 The Environment Strategy and Action Plan states that Oadby and Wigston Borough Council is committed to playing its part in responding to the growing evidence that urgent action is required to respond to global warming (climate change).

1.2 The Council has been working with APSE (Association of Public Service Excellence) Energy to produce a Climate Change Baseline Study **(Appendix 1)** for the reporting year April

2019 to March 2020 (pre-covid). The baseline study measures the carbon footprint for Council operations which can be used as a benchmark to record current emissions and to track performance against further emissions. APSE have used this baseline to provide a trajectory report to include scenarios for decarbonisation of Council operations and recommendations to do this. Further emissions reporting is most likely to use the Local Government Association (LGA) carbon calculator which can be accessed without cost.

1.3 It should be noted that the recommendations in the report are somewhat generalised, and costings are approximations. This is a desktop study; the outcomes are informative but as stated in the report it recommends site specific investigations for actual costings and to clarify the actions required.

2. Key points from the Baseline Study/Trajectory Report

2.1 The Council's carbon footprint of **1,651 tCO2e** has been calculated using the best data that was available to the Council during the reporting year 2019/2020 (Emissions are calculated as carbon dioxide equivalent (CO2e), which is a term used to combine the seven most threatening gases that have the highest Global Warming Potential). For comparison the UK average carbon footprint is about 6-10 tonnes CO2 per person per year.

2.2 The carbon footprint is categorised into scopes, which cover:

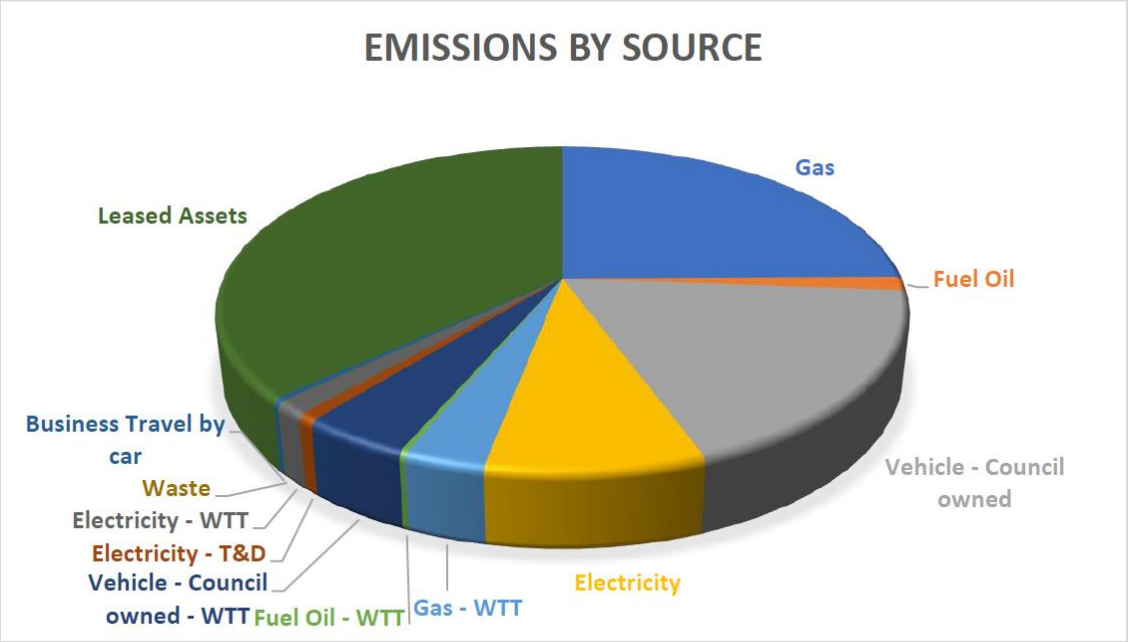
- Scope 1 – includes fuel burnt on site such as gas and emissions from vehicles
- Scope 2 – indirect emissions associated with purchased electricity
- Scope 3 – Other indirect emissions such as from leased assets, and goods and services

2.3 The biggest three emission sources for the council are

- Leased assets – Leisure Centres (37%)
- Gas consumption from council owned and managed properties (25%)
- Fuel for vehicles (18%)

2.3.1 The chart below includes other emission sources as set out at page 9 **Appendix 1** to this report.

Figure 3: Carbon emissions by source for 2019/20



2.4 The total emissions from all Scope 3 sources are not known to date, including social housing. The largest 'missing' contributor is likely to be from purchased goods and services, which is generally very difficult to gather data and calculate emissions for.

2.5 The Council should be able to achieve significant carbon and cost savings by reviewing its maintenance policies to specify highly efficient plant and services, and low-emission vehicles, rather than replacing like-for-like.

2.6 The report recommends that a detailed audit and feasibility study could be carried out for all assets to determine the site-specific initiatives. This will provide an indication of the realistic interventions that could be provided and the likely cost savings, capital cost and carbon savings.

2.7 Interventions to reduce gas and electricity usage and associated emissions in buildings include insulation, installing heat pumps and solar panels, LED lighting and controls, and replacing aging office equipment (as set out at pages 17-19 **Appendix 1** to this report).

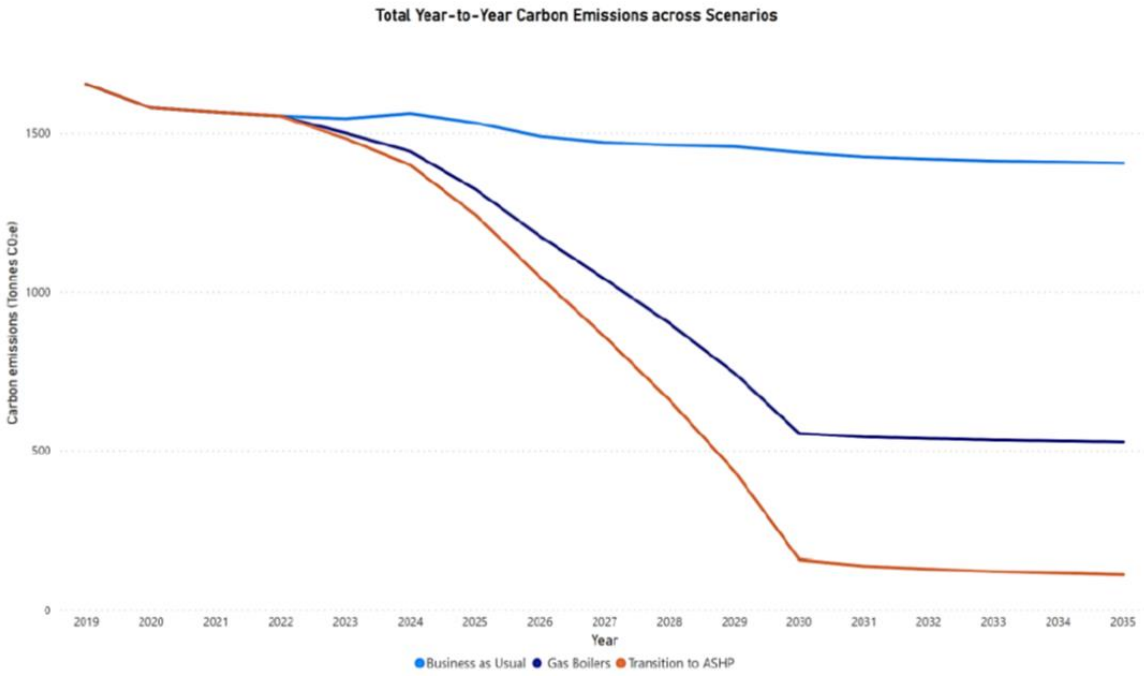
2.8 For vehicles, the report recommends that they are upgraded to low emission alternatives (e.g. electric) to reduce emissions. This can be achieved by changing policies so that ULEV vehicles are purchased/leased instead of replacing vehicles like-for-like.

2.9 A 2030 net zero trajectory was selected for discussion purposes – many other councils have a 2030 target, although prior work was not necessarily carried out to inform this date. A climate emergency has not been declared nor a (net-zero) date set by the Council and so the information in this report could be used to do so, although there is no legal requirement to set a date. In other words, this report will allow for an evidence-based discussion on what is the best course of action for OWBC, bearing in mind the UK has a legally binding net zero target of 2050 and new interim targets to reduce emissions by 78% by 2035.

2.9.1 Net-zero is defined as minimising carbon emissions and only off-setting hard-to-reduce emissions. Off-setting can include tree planting schemes and land based solar.

2.9.2 The chart below shows emission scenarios for 2030 net-zero as set out at page 25 **Appendix 1** to this report.

Figure 8: Comparing carbon emissions under the different scenarios



2.10 Chart commentary

- Net-zero is calculated from a 2019/20 baseline of scope 1, 2 and some scope 3 emissions.
- For "Business as Usual" scenario (light blue) there is a decrease in electricity carbon emissions as the grid decarbonizes, but emissions from other sources barely change. By doing nothing, the carbon emissions will be reduced by 13% from the 2019 baseline.
- The "Gas Boilers" scenario (dark blue) will improve efficiencies by delivering all reported interventions across Scope 1, 2 and 3 but retain the gas boilers.
- The "Transition to Air Source Heat Pumps scenario (Red) will improve efficiencies by delivering all reported interventions across Scope 1, 2 and 3 and replace all boilers with ASHPs - carbon emissions will be reduced by over 90% from the 2019 baseline. The remaining emissions will then need to be off-set.

3 Forecast Capital Costs

3.1 The forecast capital cost to achieve the 2030 net zero goal under the Air Source Heat Pumps scenario is approximately £13.3million and the total annual savings (from efficiencies and interventions) achieved in the year 2030 would be the equivalent of £318,600.

3.2 The installation of heat pumps and transition to electric vehicles involves significant capital costs, as set out at page 25 **Appendix 1** to this report, although there will likely be cheaper low carbon options available in the future (the interventions recommended are based on proven current technology).

3.3 However, this report has not taken account of future planned spending on the Council's assets. A figure of £13.3m has been estimated as the cost but there will have been significant funds spent over the time period in these assets anyway.

4 Next Steps/Considerations

4.1 The intention is to use this study to feed-in to a full review of the Council's current Environment Strategy and Action Plan; the move from the existing Action Plan to the new one will have a stronger focus on climate change and reducing carbon emissions. The Climate Change Baseline Study highlights factors to consider when looking at the Council's approach to this:

- Informing/training all in the authority (Officers and Members) about the importance of this agenda in their daily delivery of services, project work and investment decisions
- Avoiding the position where a single person or team is considered the sole area of responsibility/knowledge for this agenda
- Establishing an appropriate process for collating, analysing and reporting relevant data on performance and assets
- Prioritising activity to address decarbonisation – address the biggest emitters and where most benefit can be gained first;
- Understanding which actions should be funded by revenue funding, reserves, PWLB or other funding (such as Public Sector Decarbonisation Fund)
- Planning well in advance for external funding.

4.2 As previously stated, it is for the council to decide with regard the best course of action for decarbonisation of council operations; and there are clearly factors outside the Council's control such as Government funding and technological advancements which have big impacts.

4.3 It should also be noted that the baseline study considers Council operations and not the much larger carbon emissions associated with the wider borough which through our actions we have an influence on. This will need to be considered when reviewing the Council's current Environment Strategy and Action Plan, including any existing and future climate change collaboration work across the county.

4.4 Local Authorities are typically responsible for between 2-5% of local emissions. A future Strategy and Action Plan will provide a longer term road map for tackling climate change both internally and in the wider borough. It will set out our priorities given finite resources and a timeframe for taking action, linking to existing strategies. It will enable the Council to lead by example through its own decarbonisation actions, influence local reductions in emissions and shape the wider climate agenda through its policy, engagement and partnership work.