

To present the key outcomes of the **Climate Change Baseline Study** /Trajectory Report for consideration and comment

Background

The council has 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).

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 LGA carbon calculator which we can access without cost.

A 2030 net zero scenario 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 so we can use the information in this report to do so if we wish, 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.

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.

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**



OWBC Decarbonisation of council operations - APSE Carbon footprint calculation

Climate Change Strategy and Action Plan

The council's **carbon footprint** has been calculated using the best data that was available to the Council during the reporting year



OWBC
1,651 tCO₂e
2019/2020



Net Zero

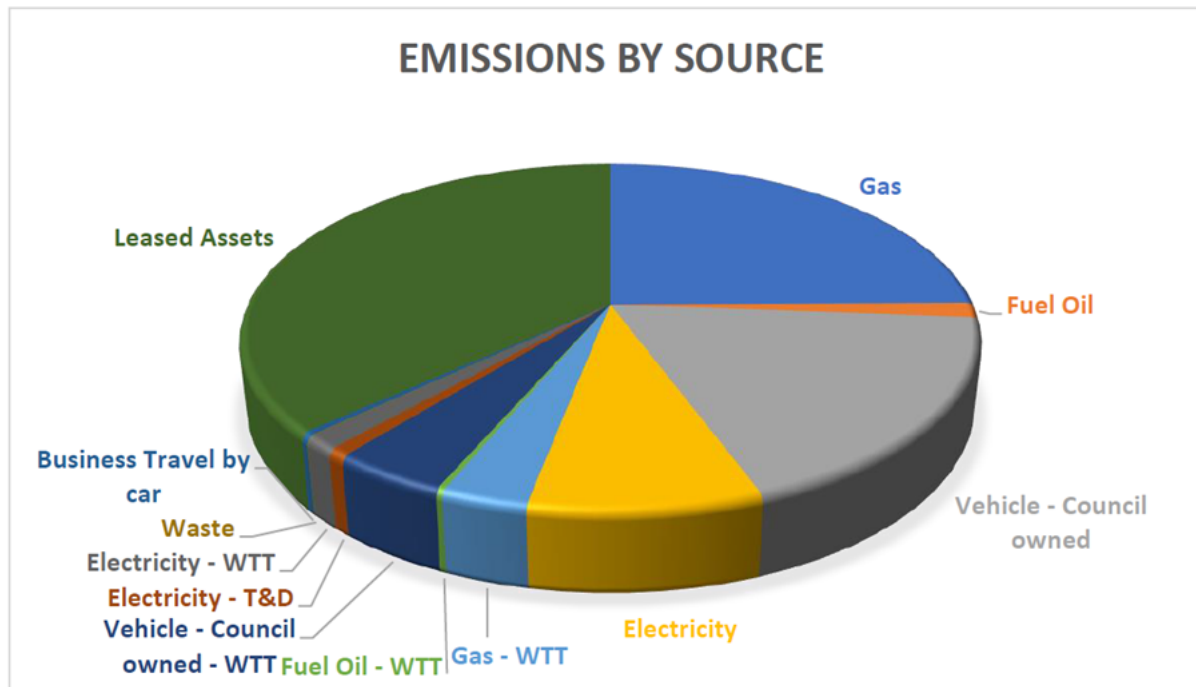
For comparison

The UK average carbon footprint is about 6-10 tonnes CO₂ per person per year.

Driving around 6000 miles in a small petrol car is equal to 1 tonne of carbon

The carbon footprint has been undertaken in accordance with best practise guidance by the Greenhouse Gas Protocol¹

Figure 3: Carbon emissions by source for 2019/20



Offsetting assumed for hard-to-reduce sources and is possible through land-based PV and a tree planting schemes.



Scope 3

Note -The total emissions from all Scope 3 sources (other indirect emissions) are not known to date, including individual homes for 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.

Source: OWBC Trajectory Report (APSE)

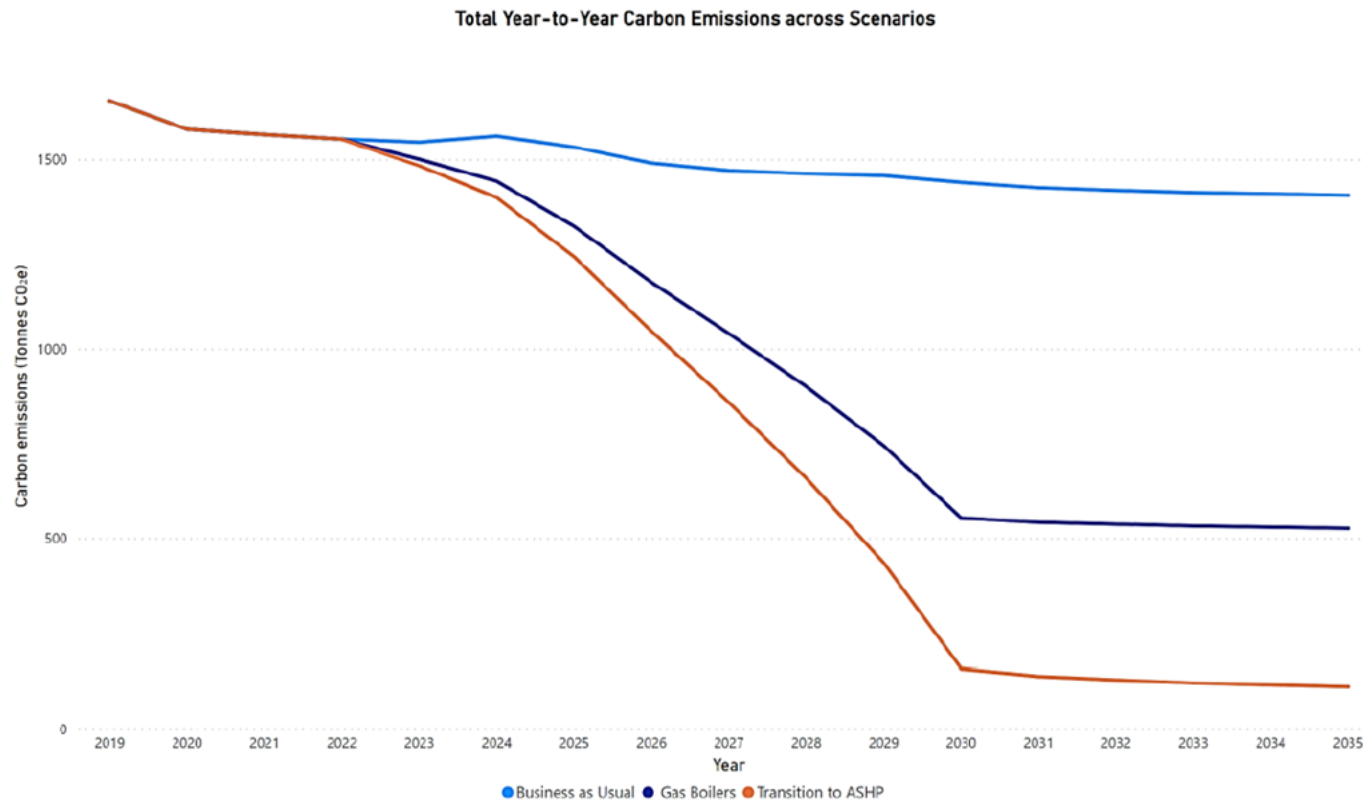
Decarbonisation of council operations - APSE Trajectory Report - decarbonisation pathways

Time Frame - to be considered

Climate Change Strategy and Action Plan

Decarbonisation scenarios

Figure 8: Comparing carbon emissions under the different scenarios



Commentary

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.

Improve efficiencies by delivering all interventions across Scope 1, 2 and 3 but **retain the gas boilers**

Improve efficiencies by delivering all 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.

More carbon cut

Increased costs

Approximate costs £13.3m

Next Steps/considerations

The intention is to use this study to feed-in to a full review of our 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.

Factors to consider (from the report) when looking at the council's approach are as follows:

- 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 PSDS);
- Planning well in advance for external funding.

As previously stated, it is for the council to decide with regard setting a net-zero date and 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.

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 and can have an influence on. This will need to be considered when reviewing our current Environment Strategy and Action Plan, including any existing and future climate change collaboration work across the county.

FYI - the following slides provide an overview of recommendations from the trajectory report for decarbonisation of council operations which have additionally been categorised and set to an indicative timeframe.



APSE Trajectory Report - summary recommendations for net zero and data collection

1. Data Collection - carbon reporting process is streamlined and progress towards targets can be tracked.

a. A review should be carried out of each asset to determine if the **Council are responsible for paying** the electricity and gas usage

b. **Scope 1 and 2 emissions** -the Council should develop a procedure for gathering and storing its own data as it is made available.

c. **Scope 3 emissions** - where applicable, the Council should develop policies/procedures to gather the data from third parties.

d. Policies should be put in place to start recording waste data from all sites.

e. Upgrade to **smart metering and energy management** software

Feed into a review of current Environmental Strategy and Action Plan

Short Term

Medium Term

Long Term

APSE Trajectory Report - Summary recommendations for net zero and buildings

2. Buildings - the Council should be able to achieve significant carbon and cost savings by reviewing its maintenance policies to specify highly efficient plant and services, rather than replacing like-for-like.

a. It is recommended that a **detailed audit and feasibility study** is carried out for all assets to determine the site-specific initiatives.

b. For buildings it is recommended that the principles of the **energy hierarchy** are followed. The aim is to reduce operational carbon emissions by as much as financially and technologically possible and offset the emissions that are difficult to reduce. For example, insulating a building first to reduce size of the low carbon heating plant before renewables are considered.

Low carbon heating

c. An investigation is required to review the buildings **new electrical load** to determine if a larger electrical incoming supply is required.

d. Installing **Heat pumps** - retrofit **can be expensive** and financial incentives should be sought: Renewable Heat Incentive or grant funding as with the **Public Sector Decarbonisation Scheme**.

Likely cheaper low carbon heating options available

e. Interventions for **reducing electricity usage** include LED lighting and more efficient office equipment

f. Net Zero model assumes that 200 kWp of **solar photovoltaic (PV)** could be installed on council buildings

Gas boilers high carbon emitters

Short Term

Medium Term

Longer Term

Feed into a review of current Environmental Strategy and Action Plan

APSE Trajectory Report - Summary recommendations for net zero and vehicles and machinery

3. Vehicles and machinery - 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.

a. It is recommended that a **detailed audit and feasibility study** is carried out to determine the site-specific initiatives.

b. **Ultra-Low Emission Vehicles** (ULEV) are already commercially available to replace most passenger and delivery vehicles in the Council's fleet – trajectory modelled for transition to EV.

c. The market for ULEV alternatives for **agricultural machinery** (i.e., tractors and diggers) is still in its infancy. Therefore, to reduce emissions in this sector, the fuel utilised would be transitioned to biodiesel

d. Effective journey management and route optimisation for **refuse collection vehicles** (RCVs) could afford lower mileage which would further reduce transportation-related emissions of the Council.

e. **Council owned machinery** transitioning to electrical alternatives

f. A reduction in emissions associated with **business mileage**/travel could be stimulated by encouraging ride sharing, hybrid working) and transition to EV

g. Installation of **workplace EV chargepoints**

Short Term

Medium Term

Longer Term

Fleet vehicles high carbon emitters

Feed into a review of current Environmental Strategy and Action Plan