Babergh and Mid Suffolk District Councils' Greenhouse Gas Emissions Report – April 2022 to March 2023

Contents

Glossary

Air-Source Heat Pump	ASHP
Carbon Dioxide Equivalent Tonnes	tCO_2e
Greenhouse Gas	GHG
Hydrotreated Vegetable Oil	HVO
Kilowatt Hour	kWh
Kilowatt Peak	kWp
Megawatt Hour	MWh
Global Warming Potential	GWP

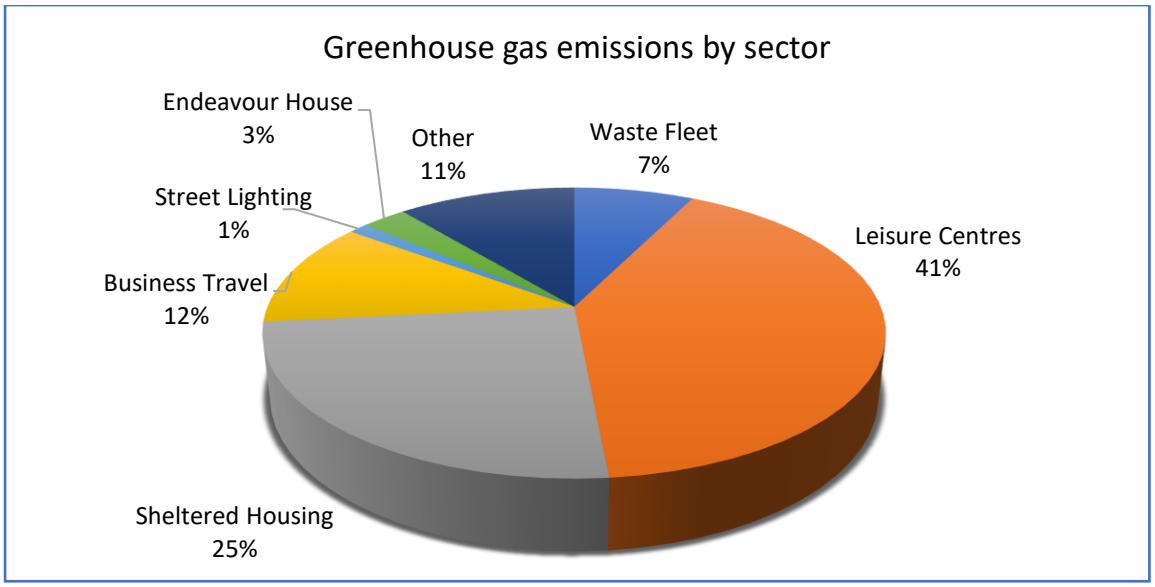
Solar Photovoltaic	Solar PV
Methane	CH4
Nitrous Oxide	N2O
F-gas hydrofluorocarbon	CFC
F-gas perfluorocarbon	PFC
Sulphur hexafluoride	SF6

Summary

Babergh and Mid Suffolk District Councils have declared a climate emergency to achieve carbon neutrality by 2029 against the 2018 baseline. This report outlines the performance of our greenhouse gas (GHG) emissions, tracks, and monitors progress towards achievement of this ambitious sustainability target both in the current reporting year and since the baseline.

In 2022/2023 (year 4) the Councils emissions amounted to 3,882 tCO2e (tonnes carbon dioxide equivalent) with a breakdown of service delivery activities and building types shown below.

Graph1: greenhouse gas emissions by sector

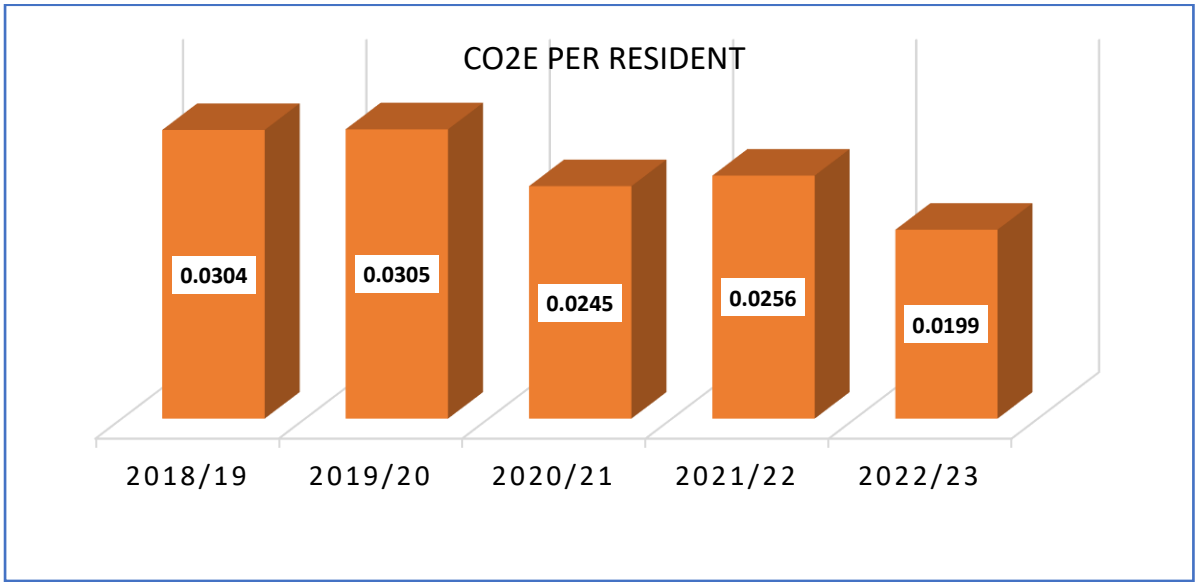


Emissions are 22.2% lower than 2021/2022 mainly because of solar PV (photo-voltaic) and low carbon technologies installations, although against the baseline target, 5,933 tCO2e[1], performance is 2.8% (107 tCO2e) from where it needs to be to reach the target at year 4.

The Councils 2022/2023 carbon footprint per resident performance key performance indicator (KPI), however is 34.5% lower than the baseline. See graph 2.

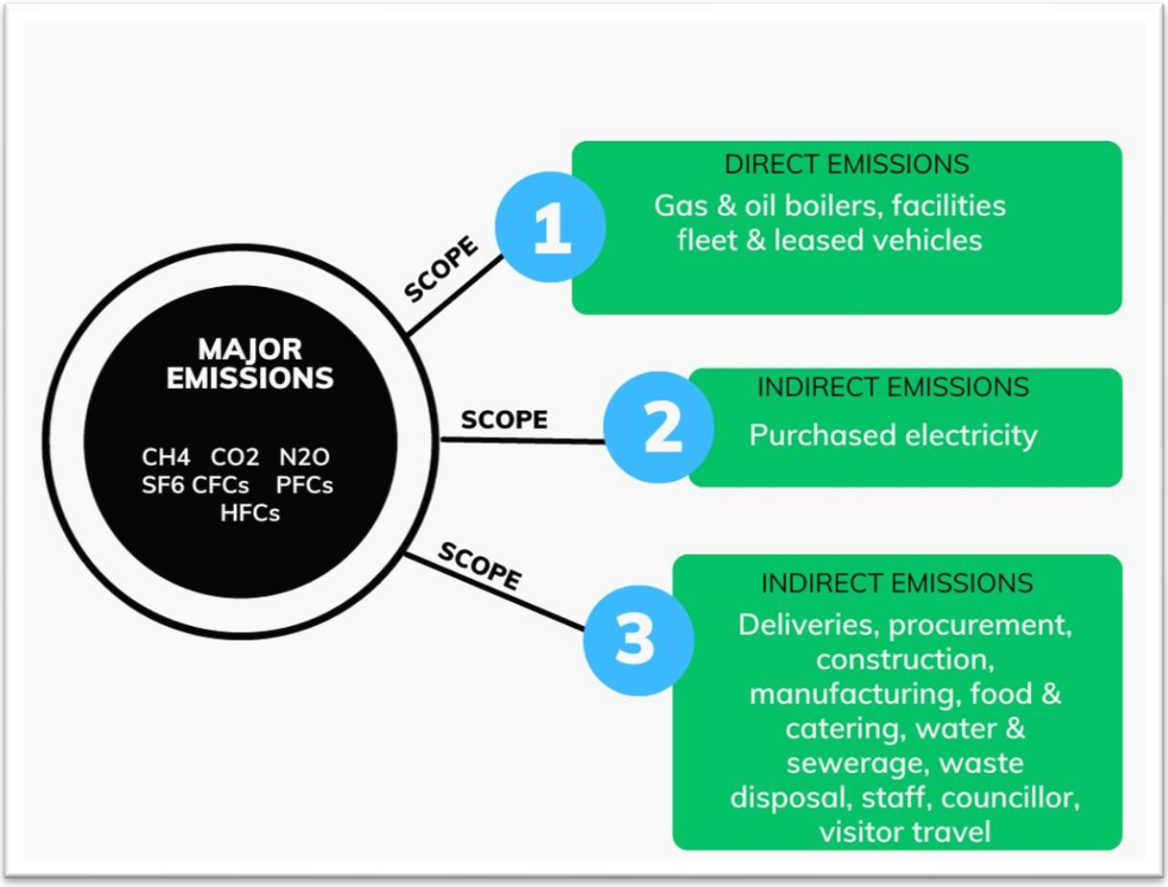
[1] This figure has been revised following the discovery of data anomalies in previous reports

Graph 2: GHG emissions per resident



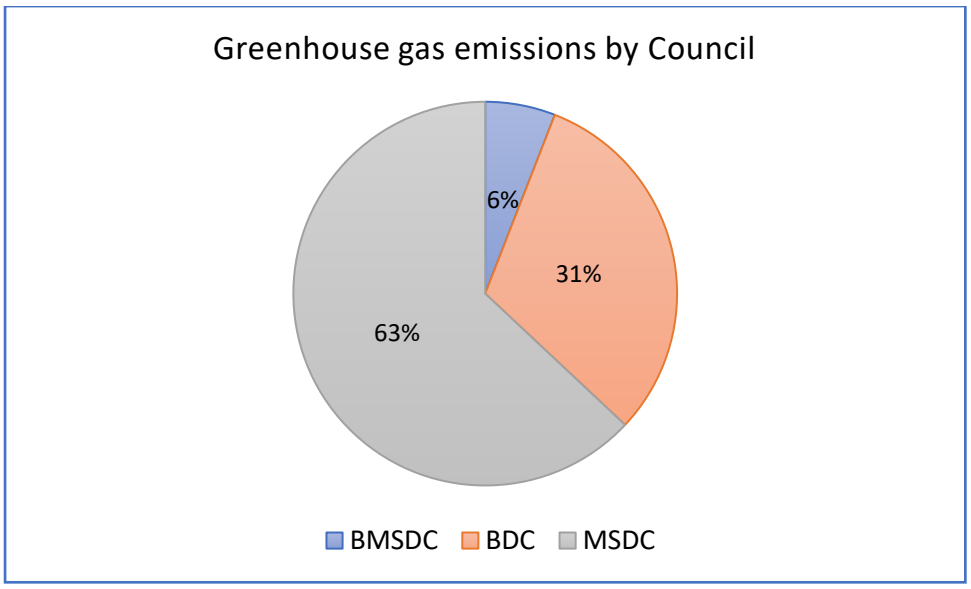
The basis of our GHG reporting, reducing emissions and identifying climate related risks are in line with three emissions categories, referred to as scope 1, 2 and 3 emissions as defined by the Greenhouse Gas Protocol of 2001 and shown in the following chart.

Chart 1: scope 1, 2 and 3 emissions



Graph 3 shows how these scope emissions are broken down between the Councils with MSDC making up more than 60% of total emissions.

Graph 3: greenhouse gas emissions by Council



Note: BMSDC represents activities common to both Councils, e.g., business car usage by staff and councillors, occupancy at Endeavour House and Public Realm

Introduction

This comprehensive carbon footprint report for Babergh and Mid Suffolk District Councils is for the (fiscal) reporting year 2022/2023. The report defines the trajectory of greenhouse gas (GHG) emissions since the baseline year 2018/2019 and provides vital information to support policymaking, action planning and the transition to net zero. Its purpose is to respond to the climate emergency declaration and to realise the Councils commitment to achieving carbon neutrality by 2029/2030.

The report complements the work currently underway with the refreshed Carbon Reduction Management Plan for the Councils' operations in 2022/23. It identifies both successes and areas of concern; notably the need to decarbonise the Council owned sheltered housing and leisure centres (which account for almost 70% of total emissions).

This report, as with the previous one, uses 2018/19 as the baseline and measures the progress in terms of carbon emissions, together with the trajectory in which we will need to travel to meet the Councils' aim of being carbon neutral by 2029/2030.

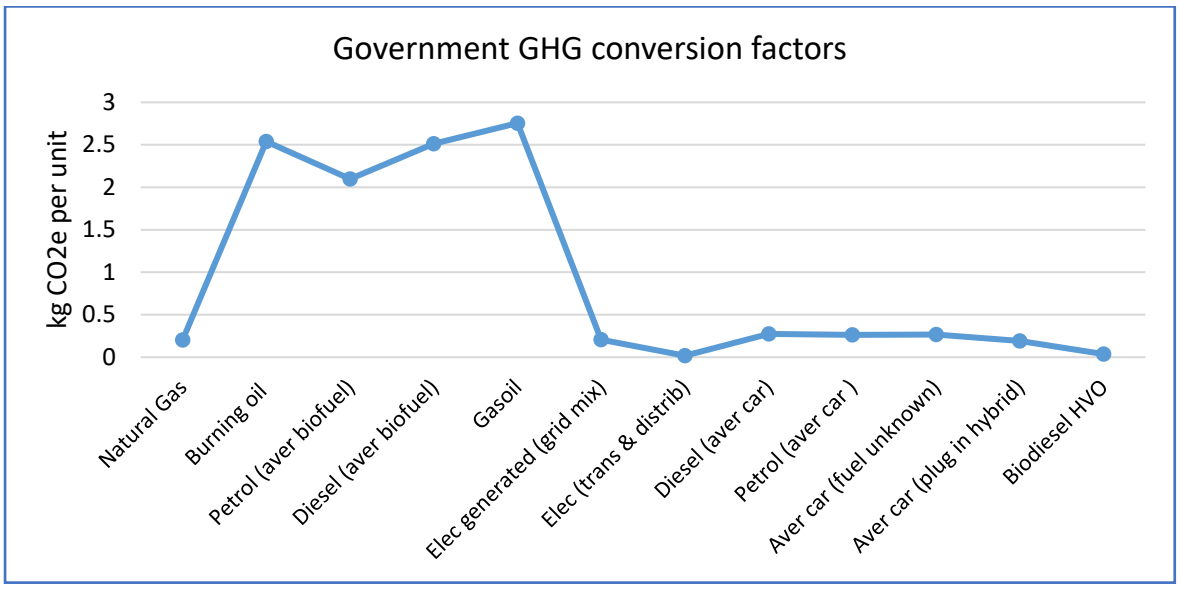
Methodology

The methodology to monitor, measure and report the Councils' carbon footprint uses the HM Government, Environmental Reporting Guidelines. See Appendix 1 for a full list of the other guidelines also used.

For each Council-operated service delivery activity, we assess both direct and indirect energy consumption including electricity and gas usage in buildings, fuel usage in Council-owned vehicles and mileage of private (and leased) cars used for Council business.

The carbon footprint of each activity and building is evaluated using data provided by internal service departments and third parties and carbon conversion factors published annually by the UK Government - see below,

Graph 4: 2022/2023 Government GHG conversion factors



The above graph shows the relatively high carbon intensity of gas, oil and travel or transport fuels and if we are to reach our net zero target these are the activity areas we need to focus on.

Carbon Dioxide Equivalent (CO2e)

CO2e is a measure or indicator of the global warming potential (GWP) of carbon dioxide and includes a basket of six greenhouse gases defined by the Kyoto Protocol. These are:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- F-gas hydrofluorocarbons and perfluorocarbons (CFCs, PFCs)
- sulphur hexafluoride (SF6)

The analysis in this report is therefore based on these gases as CO2e better reflects the climate impact of our emissions, rather than CO2 only, using the universal GWP unit of measurement.

Organisational Boundary

The greenhouse gas Protocol helps us define our boundaries for accounting and reporting emissions. This report therefore adopts a 'control approach' to focus on emissions from business operations entirely under our control. These include: -

- headquarters
- touchdown points
- leisure centres
- social housing
- streetlighting
- Council-owned vehicles
- third-party services and internal policies leading to emissions

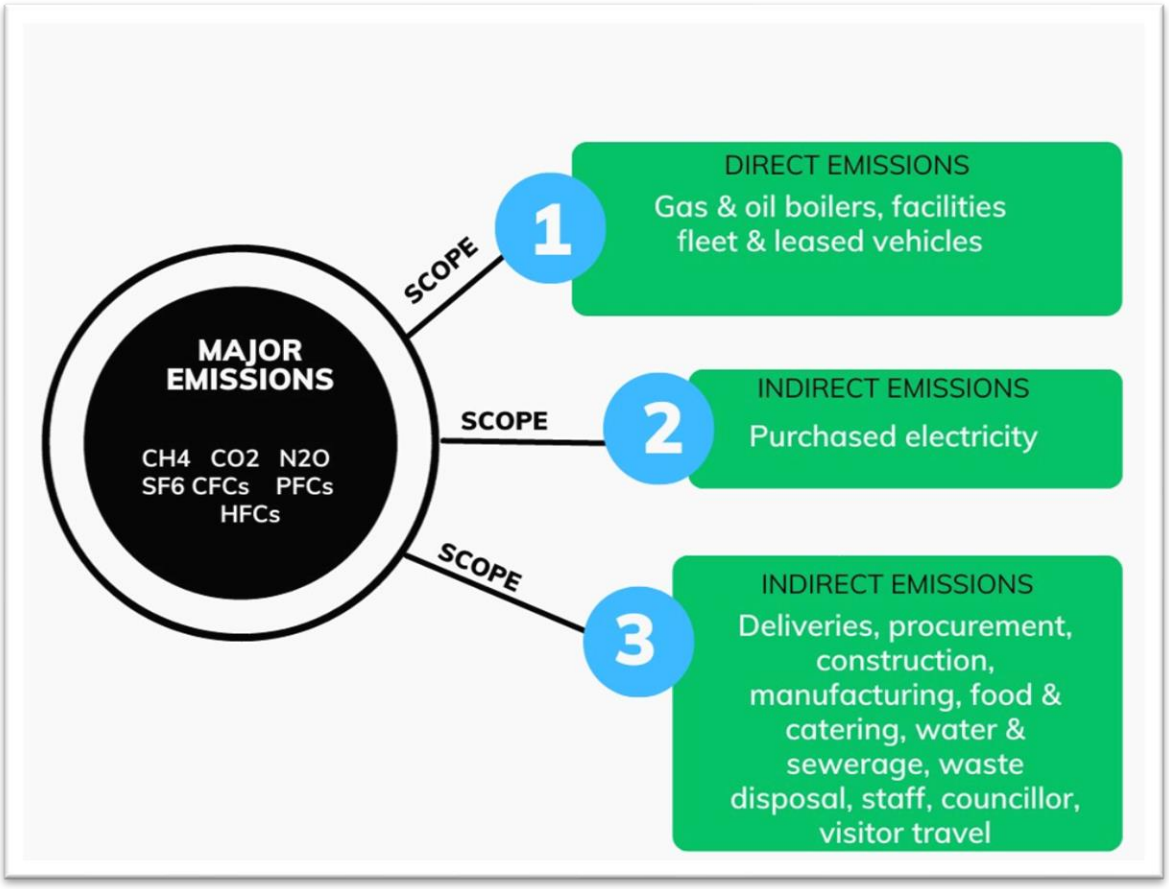
- mileage claimed by councillors to attend Council business meetings
- mileage claimed by staff on Council business

Staff commuting miles to offices are excluded from our organisational boundary (although the staff travel survey helps us to capture and monitor these).

Scope Emissions

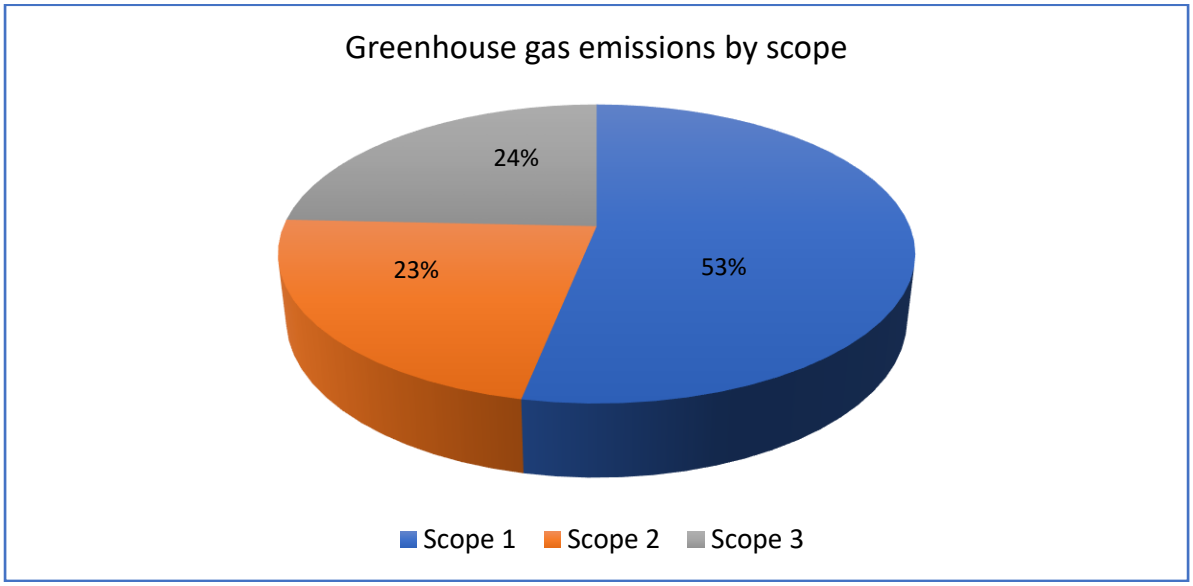
Every area of our activity impacts the environment, creating greenhouse gas (GHG) scope emissions as defined by the GHG Protocol. See chart 2.

Chart 2: Scope 1, 2 and 3 emissions



In 2022/2023 the Councils GHG emissions amounted to 3,882 tCO2e (tonnes carbon dioxide equivalent) with scope 1 making up more than half (53%) of total emissions as graph 5 shows.

Graph 5: Councils GHG scope emissions breakdown



Our initial efforts target scopes 1 and 2 to provide the greatest emissions reductions while we continue to map and assess how to develop a standardised reporting mechanism for scope 3 emissions, which are predominantly from our suppliers and contractors, i.e., the supply chain.

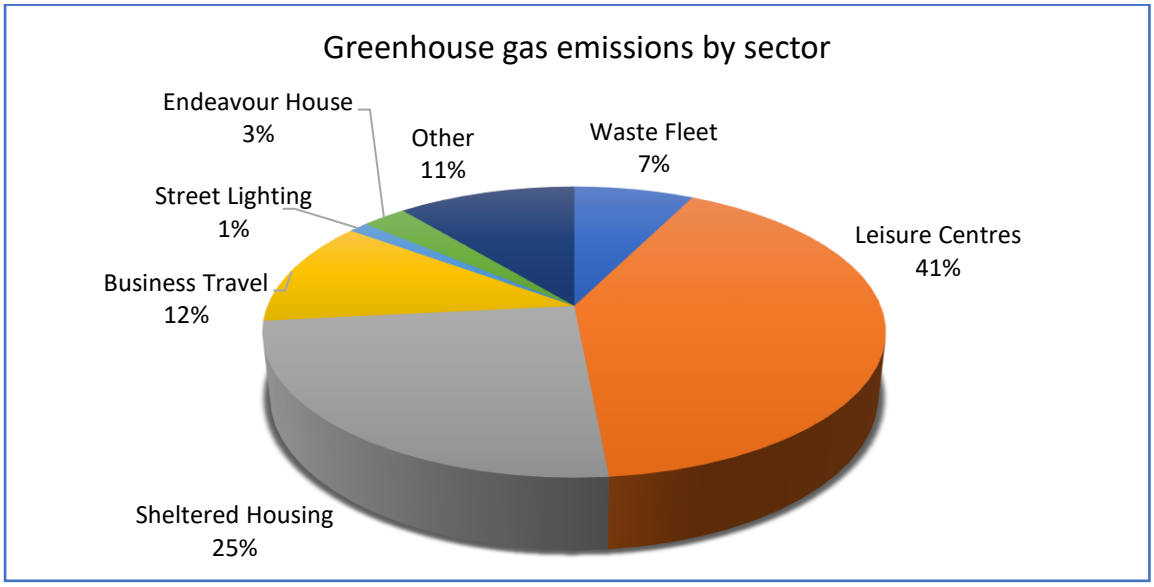
Scope Change

Although some changes occurred in how the Councils managed the payment of the energy and utilities invoices for its leisure centres resulting in scope changes, the overall carbon emissions figures for these buildings remained unaffected.

GHG Emissions 2022/2023

In the reporting year the Councils emissions amounted to 3,882 tCO2e with a breakdown of service delivery activities and building types shown below.

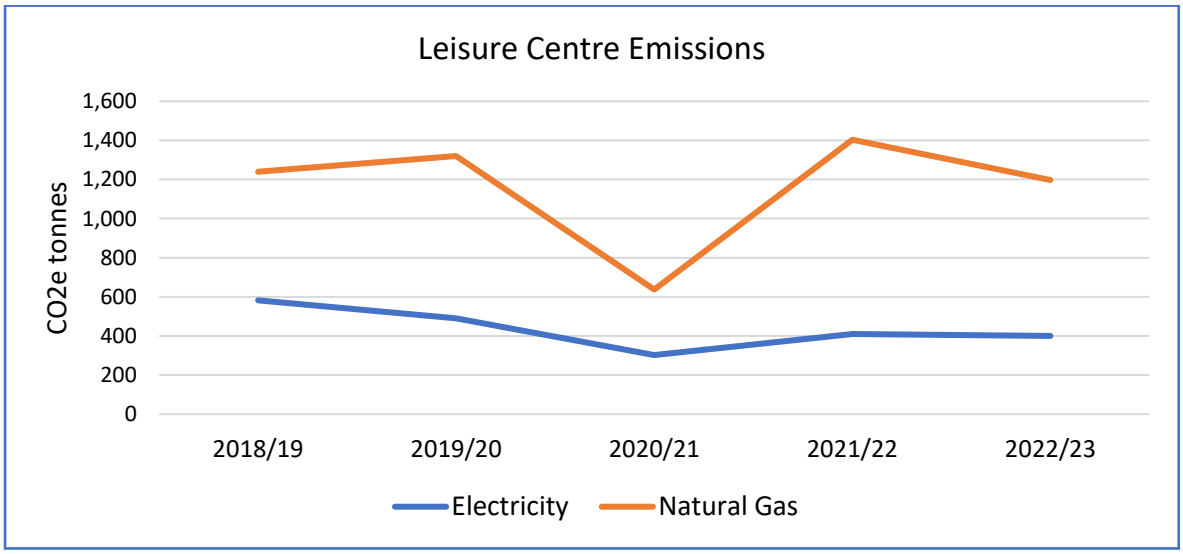
Graph 6: greenhouse gas emissions by sector



Leisure Centres

Overall leisure centre emissions in the reporting year dropped by 216 tCO2e (11.9%) following the installation of roof mounted solar PV (photo voltaic), low carbon heat pump technology (at the bowls hall at Mid Suffolk, Stowmarket) and the replacement of life expired boilers with energy efficient boiler plant and modern control systems.

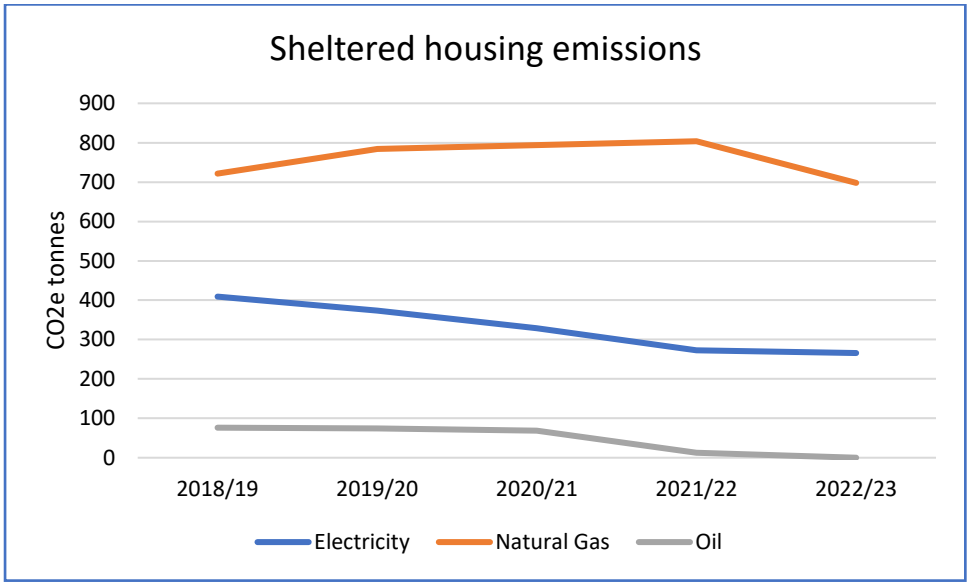
Graph 7: leisure centre greenhouse gas emissions



Sheltered Housing

In the reporting year sheltered housing emissions amounted to 964 tCO2e with a significant proportion (72.4%) stemming from gas as the following graph shows.

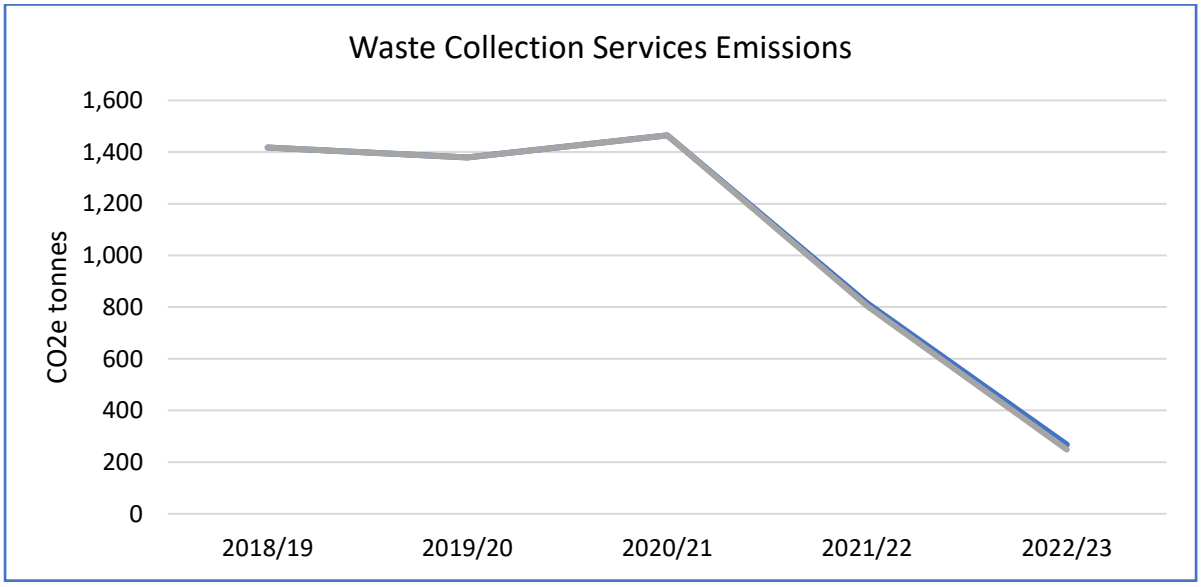
Graph 8: sheltered housing greenhouse gas emissions



Waste and Refuse Collection Services

Emissions from the waste refuse collection fleet service continue to drop following the switch over in August 2021 to Hydrotreated Vegetable Oil (HVO), as the primary fuel source, with its inherently lower carbon intensity compared to diesel (see page 5, graph 4).

Graph 9: waste collection fleet services greenhouse gas emissions



Data Gaps and Reliability

Accurate GHG emissions reporting is dependent on third parties providing buildings energy usage, for example and internal departments providing accurate vehicle mileage and transport fuels data. Any missing or untimely data could therefore lead to a margin of error, estimated at +/- 5% in this report, although by 2029/2030 (year 11) this could be marginal.

Other Emissions

Endeavour House contributed 107 tCO2e, 3% of our total emissions, based on the proportion of the floorspace occupied (14%) as tenants by Babergh and Mid Suffolk District Councils.

It is impossible to quantify (without energy sub-metering) how behavioural changes by our staff and visitors would impact energy usage, especially electricity, to potentially reduce emissions.

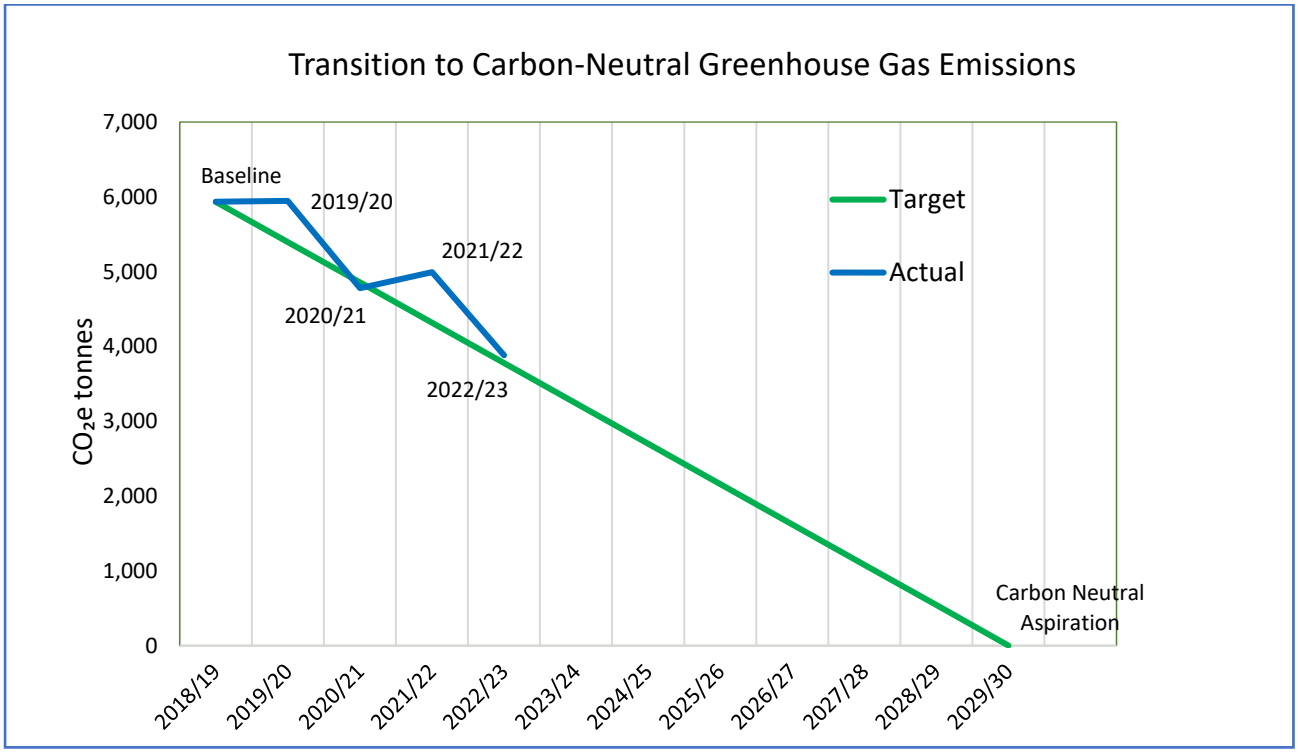
In the reporting year emissions from private vehicles used by Council staff and councillors on official business amounted to 119 tCO2e or 3.1% of the total.

Emissions reductions of 3.6 t CO2e are being realised by our EV (electric vehicle) charging points at Lavenham, Needham Lakes and Regal Theatre while at the same time locally improving air quality to give health benefits. Further publicly accessible EV infrastructure is planned in Council car parks to provide residents with wider (car) choice.

Transition to Carbon Neutrality

Graph 10 shows our progress towards achieving a carbon-neutral target by 2029/2030, starting from the 2018/19 baseline of 5,933 tCO2e.

Graph 10: emissions trajectory to carbon neutrality



The graph compares actual emissions (blue line) against the trajectory (green line). In 2019/2020, carbon emissions increased slightly to 5,945 tCO2e but decreased to 4,777 tCO2e in 2020/2021 mainly because of the Covid lockdown.

Performance to 2022/2023 (year 4) is currently 2.8% (107 tCO2e) from where it needs to be. Going forward we must continuously realise reductions on average of 539 tCO2e (9.1%) each year to then be constantly **below** the green line to ensure we reach our target date.

Realised and Pipeline GHG Reduction Projects

CO2e emissions savings are being realised from several projects carried out just before the start of the reporting year with other projects expected to provide further savings including potential savings from actual and pipeline projects as table 1 shows.

Table 1: Actual and pipeline emissions savings projects

				Annual savings tCO2e	
Building name	Funding source	Project description	Operational start	Actual	Projected
Leisure Centres	Salix Public Sector Decarbonisation Scheme	Roof mounted solar PV	Feb / March 2022	197.2	
Wenham Road Depot	As above	Roof mounted solar PV + new roof	As above	4.9	
Mid-Suffolk, Stowmarket	As above	Electric heat pump	As above	19.5	
Kingfisher, Sudbury	Central Government Getting Building Fund	Solar car port + battery storage	Feb / March 2023		110.9
Mid-Suffolk, Stowmarket	As above		As above		77.0
Leisure Centres	Sport England	Package of energy efficiency measures	Wating for funding approval		445.3
Totals				221.6	633.2

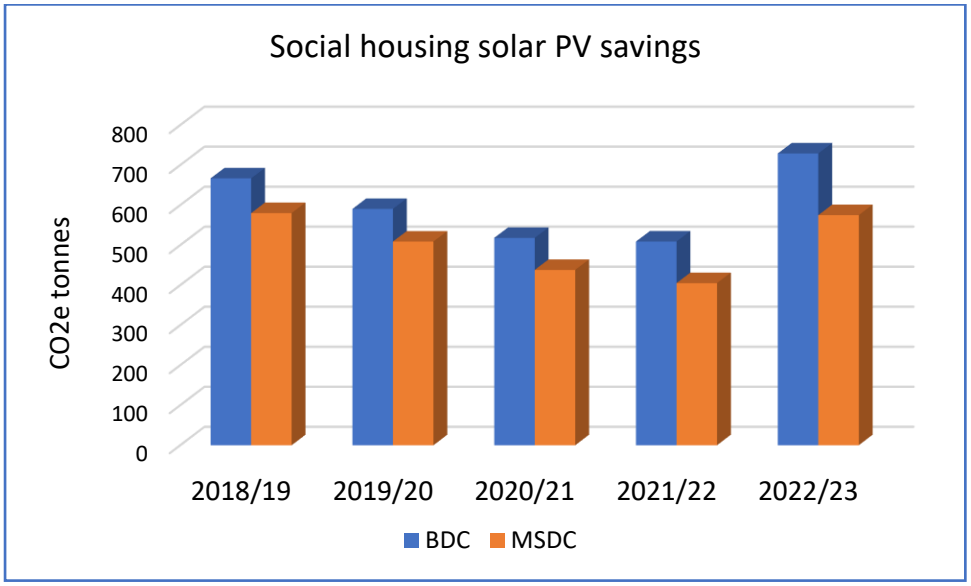
In addition, we are also in the process of submitting a funding bid to the Salix Social Housing Decarbonisation Fund to support the energy performance of our social housing stock.

Solar PV Council owned Housing

The Councils have installed approximately 5 MWp of roof mounted solar PV in some 2,000 Council-owned housing. Although the emissions saved from these installations are not reportable as an offset according to the Government's standard guidelines due to the electricity companies' claims, the investment contributes to decarbonising grid electricity by replacing it with local, renewable power.

Since 2018/19, our solar PV installations in social housing are providing cumulative emissions savings of 5,519 tCO2e as the following graph shows.

Graph 11: social housing solar PV emissions



Conclusion

This report highlights the significant challenge of making the Councils carbon neutral by 2029/2030. We have to date successfully secured external funding to support emissions reductions in our built environment, which is giving tangible benefits, but this needs to be accelerated. Furthermore, efforts need to also be intensified in areas like sheltered housing, travel and transport as well as education, awareness and behavioural changes in our supply chain (scope 3 emissions) if we are to achieve our carbon neutrality target.

Appendix 1

Guidelines used to define the GHG reporting methodology: -

- HM Government, Environmental Reporting Guidelines
- Streamlined energy and carbon reporting guidance, March 2019 (Updated Introduction and Chapters 1 and 2)
- WRI / WBSCD - The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), March 2004.
- WRI / WBSCD - The Greenhouse Gas Protocol: Scope 2 Guidance, An GHG Protocol Corporate Standard amendment, 2015
- UK Government Conversion Factors for Company Reporting (2022) - DBEIS / DEFRA

References

1. HM Government (2019): "Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance," HM Government. Available at: Link
2. World Resources Institute and World Business Council for Sustainable Development (2004): "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)," World Resource Institute, Washington, USA. Available at: Link

3. World Resources Institute and World Business Council for Sustainable Development (2013): "Required Greenhouse Gases in Inventories, Accounting and Reporting Standard Amendment," World Resource Institute, Washington, USA. Available at: Link
4. DBEIS and DEFRA (2022): "UK Government Conversion Factors for Company Reporting (2022)," Department for Business, Energy and Industrial Strategy. Available at: Link