



ENVIRONMENT, CLIMATE EMERGENCY AND TRANSPORT COMMITTEE

Monday 19 June 2023

Report Title:	CARBON BUDGET PERFORMANCE 2022-23
Report of:	DIRECTOR OF REGENERATION AND PLACE

REPORT SUMMARY

This is the third annual Carbon Budget Performance Report and covers the 2022/23 financial year. It shows actual emissions compared against the 2022/23 Carbon Budget Target. This allows the Council to measure progress towards its target of carbon net zero by 2030 as included in the Environment and Climate Emergency Policy.

Annual Carbon Budget Targets and performance to date are shown in the table below. Emissions are shown as tonnes of carbon dioxide equivalent (CO₂e) which is the internationally recognised standard for reporting of Greenhouse Gas (GHG) emissions.

Financial Year	Annual Carbon Budget (tonnes CO ₂ e)	Actual Emissions (net tonnes CO ₂ e)
2019/20	13,656 (Baseline)	13,656
2020/21	10,349 (Mobilisation year)	9,424
2021/22	7,843	6,275
2022/23	5,944	5,661
2023/24	4,505	
2024/25	3,414	
2025/26	2,587	
2026/27	1,961	
2027/28	1,486 (Re-baselining due)	

The Carbon Budget emissions limit for 2022/23 was 5,944 tonnes CO₂e. Net actual emissions were 5,661 tonnes CO₂e which is 283 tonnes CO₂e below the limit set for the year. It is expected that future Carbon Budget targets will become progressively more difficult to achieve and considerable effort will be needed to remain on-track.

The Carbon Budget sets an emissions limit of 4,505 tonnes CO₂e for 2023/24 – a reduction of 1,003 tonnes CO₂e in comparison to 2022/23 performance. This reduction will only be achieved if fossil fuel use for heating is reduced significantly.

The reduction in emissions over 2021/22 has been achieved because of green electricity purchase and reduced use of energy in Council assets. Emissions associated with use of electrical energy have also reduced because of adjustments to Government conversion factors. Although the target has been met, the reduction of emissions associated with use of fossil fuels is identified as a key issue that needs to be prioritised.

Actions to preserve current performance and achieve further reductions are described. Steps to include more emissions sources for the next re-baselining are noted and documented. Longer-term issues that will have to be addressed to meet the 2030 target are noted.

This matter affects all Wards within the Borough although it only applies to Council-owned Assets.

This is not a key decision.

RECOMMENDATION

The Environment, Climate Emergency and Transport Committee is recommended to note the Council's performance and progress towards its target of carbon net zero by 2030.

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATION/S

- 1.1 On 15 July 2019 Council Members declared an Environment and Climate Emergency that included an instruction to reinstate Carbon Budget reporting. An annual Performance Report (written after the end of the financial year) outlines actual performance against set targets and highlights practical strategies being used that aim to reduce emissions.

2.0 OTHER OPTIONS CONSIDERED

- 2.1 There is an instruction from Members to reinstate Carbon Budget reporting so no other options were considered. The report is annual because the impact of seasonal variation renders anything other than a 12-month interval impractical and potentially misleading.

3.0 BACKGROUND INFORMATION

- 3.1 Performance information has been gathered and compiled using the same approved methods that were used to develop the baseline. Continued use of the Local Partnerships calculation toolkit allows comparison over time. It should be noted that the tool shows gross emissions. Net emissions are calculated by subtracting permitted offsetting measures.

3.2 Measured Performance

- 3.2.1 The Carbon Budget emissions limit for 2022/23 was 5,944 tonnes CO₂e. Net actual emissions were 5,661 tonnes CO₂e which is 283 tonnes CO₂e below the limit set for the year. Carbon Budgets and performance to date are tabulated below.

Financial Year	Annual Carbon Budget (tonnes CO ₂ e)	Actual Emissions (net tonnes CO ₂ e)
2019/20	13,656 (Baseline)	13,656
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- 3.2.2 Reporting convention requires that emissions be classified according to their defined scope. The table below shows measured emissions for the 2019/20 baseline the previous year 2021/22 and 2022/23 as well as the year-on year percentage change. Historic annual emissions from the baseline to the current reporting year are included as Appendix 1.

Scope	Emissions Type	2019/20 Baseline Emissions (tonnes CO ₂ e)	2021/22 Actual Emissions (tonnes CO ₂ e)	2022/23 Actual Emissions (tonnes CO ₂ e)	Change from previous year
Scope 1	Heating	5,994.67	5,222.63	4,496.60	-13.9%
	Authority's Fleet	599.99	469.77	509.68	+8.5%
Scope 2	Electricity	5,924.40	4,347.52	3,932.1	-9.6%
Scope 3	Staff Travel	482.03	146.73	226.24	+54.2%
	Transmission & Distribution Losses	502.97	384.81	359.7	-6.5%
	Water	151.94	50.53	68.34	+35.2
Total Emissions (Gross)		13,656.00	10,621.99	9,592.66	-9.7%
Carbon Offsets		0	0	0	0
Green Tariffs		0	(4,347.52)	(3932.1)	-9.6%
Total Emissions (Net)		13,656.00	6,274.47	5,660.56	-9.8%

3.2.3 The net calculated emissions show a reduction of 9.8% against the previous year (2021/22) and a 58.6% reduction compared with the 2019/20 baseline. Whilst this is very encouraging it must be appreciated that recent years have been highly unusual in respect of energy use patterns. It is acknowledged that a more permanent arrangement for green electricity supply will be needed - as will significant reductions in use of fossil fuels for heating if future targets are to be met.

3.3 What has affected 2022/23 net emissions?

3.3.1 The impacts of the Covid-19 pandemic have continued to affect energy use in 2022/23. Some Council facilities have been closed and these actions have reduced energy use in those buildings. The long-term impact of the pandemic on working practices remains unclear and any comment would be speculative.

3.3.2 It was anticipated that energy and water use would rise as selected Council assets re-opened after the pandemic. The requirement for increased ventilation rates inevitably increases heat loss and energy use for heating. This has been countered by reducing heating set points wherever possible. Assets not currently in use are closely monitored to ensure that energy and water use is only sufficient to prevent degradation of the building fabric.

3.3.3 It must be acknowledged that with many officers continuing to work from home for much of 2022/23 and the permanent closure of some Council office facilities some emissions will be displaced to individual homes. In time this will be reflected in national statistics and will be significant for the Borough and the Wirral Cool 2 aim of reaching carbon net zero by 2041. It is expected that the new office facilities in Birkenhead will be ready in 2023/24 hybrid working will remain a permanent feature of working practice through a mix of home and office working.

3.3.4 Emissions associated with the production of electricity have reduced and this is reflected in the annual conversion factors that are used to calculate emissions.

These are technical adjustments that reflect an increase in low carbon generation assets.

- 3.3.5 Scope 1 emissions from the Council's Fleet have risen by 8.5%. In 2021/22 the Council was still subject to periodic covid restrictions. This will have reduced fleet use and emissions. 2022/23 has seen increased use as normal operations have been resumed and backlogs addressed. There was an increased need for gritting over the December 2022 cold snap. These factors combined have contributed to the increased use of diesel fuel. However, the increase in emissions demonstrates an increasingly urgent need to reduce use of fossil fuels and reduce any unnecessary journeys - despite a reduction of 15.1% against the 2019/20 baseline.
- 3.3.6 Business mileage emissions have risen by 54.2% from 2021/22 but are 53.1% below the 2019/20 baseline. The increase may be explained by a return to normality post-covid as some activities cannot take place online. The reduction from the baseline most likely reflects increased use of electronic media.
- 3.3.7 The largest source of net emissions is from heating of Council buildings. Although emissions have reduced by 25% since the 2019/20 baseline these emissions will have to be further reduced as a matter of urgency if future carbon budget targets are to be met. The 13.9% year-on-year reduction in emissions from heating is encouraging but significant effort will have to be made to achieve net zero by 2030.

3.4 Summary of Council Actions in 2022/23

- 3.4.1 Following the development of the Environment and Climate Emergency Action Plan (ECEAP) and its Environment & Climate Emergency Action Plan, the Climate Emergency Action Group was established to oversee the delivery of the ECEAP. The Group meets every two months. Progress against the ECEAP is reported separately.
- 3.4.2 The Council took the decision to purchase REGO (Renewable Energy Guarantee of Origin) backed green electricity for 2022/3. This was introduced as a temporary measure pending negotiations to acquire energy from renewable sources - potentially through Power Purchase Agreement if this proves financially beneficial. It must be acknowledged that the purchase of REGO backed electricity is not universally accepted as a means of emissions reduction but its use is included in the Guidance for Greenhouse Gas Reporting issued by Government as a method of reducing net emissions.
- 3.4.3 Several Council assets have been closed on either a temporary or permanent basis. Controls have been adjusted to ensure minimal energy use that is needed to ensure the buildings integrity, in particular those having a listed status. Temperature set points have been reduced by 2 DegC as instructed by Members in February 2022.
- 3.4.4 Heat Decarbonisation Plans (HDP's) have been received for 11 sites. The reports were funded under a combined Low Carbon Skills Fund bid headed by the Liverpool City Region. The reports considered 2,236.6 tonnes CO₂e associated with fossil fuel use (50.4% of 2022 emissions). The reports have been well received by the scheme administrators, Salix Finance Limited. The recommendations contained in the reports are currently being assessed for integration with the Asset Strategy and operational plans. The HDP's will provide evidence required for an application to the Public Sector Decarbonisation Scheme (PSDS).

- 3.4.5 A further 18 sites have been put forward to the Liverpool City Region for inclusion in a second Low Carbon Skills Fund application. If the application is successful this initiative will deliver individual Heat Decarbonisation Plans for consideration. The 18 sites selected have combined 2022 emissions of 517.11 tonnes CO₂e.
- 3.4.6 The disposal of assets further reduces Council emissions although it must be acknowledged that these emissions are effectively transferred to the Borough and will need to be addressed by the new occupants in order that the Cool 2 Wirral net zero target is met before 2041.
- 3.4.7 There has been engagement with colleagues in the initial phases of design projects to encourage the incorporation of energy efficiency measures that will significantly improve the performance of the asset. The need to quantify environmental benefits to justify additional expenditure has been set as a precondition.
- 3.4. Tree planting over the 2022/23 season met the target of 21,000 whips and saplings. A suitable method of recording sequestration to take account of losses is being developed to meet the Woodland Trust Carbon Code and will be reported at a later stage.

3.5 Council Priorities for emissions 2023/24

- 3.5.1 Detailed actions for the coming year are included in the Environment and Climate Emergency Action Plan (ECEAP) and cover the diversity of the Council's activities. Initiatives that will impact on emissions reported include:
- Continued green purchase and exploration of alternative purchasing strategies.
 - Integrate of heat decarbonisation plans with Asset delivery plans.
 - Progress Public Sector Decarbonisation Scheme (PSDS) application to support Asset delivery plans with potential involvement of the Liverpool City Region.
 - Develop and expand project pipeline of heat decarbonisation plans.
 - Progress plans to improve energy efficiency of Leisure facilities.
 - Complete development of Green Fleet strategy. Ultimately this will reduce emissions as the use of petrol and diesel is displaced.
- 3.5.2 The Carbon Budget sets a limit of 4,505 tonnes CO₂e for 2023/24 – a reduction of 1,156 tonnes CO₂e in comparison to 2022/23 performance. This reduction will only be achieved if fossil fuel use for heating is reduced significantly.

3.6 Increased Reporting

- 3.6.1 One of the recommendations made by Local Partnerships was to add to the list of emissions being reported in cases where reliable reporting threads can be established for measures that may be converted to Carbon Dioxide equivalent (CO₂e). Most of these emissions will be 'scope 3' (sometimes called Other Indirect) which are incurred when the Council uses a product or a service but cannot directly influence the emissions associated with it.
- 3.6.2 Where reliable and coherent reporting is established, the annual performance report will record the annual emissions until they can be incorporated into the Carbon Budget when it is re-baselined. These processes are at a very early stage so it is not possible to provide detail. The following possibilities are being explored:

- Fugitive Emissions are Scope 1 emissions that the Council has not been able to report because of continuing resource constraints. If the necessary resource is made available, this reporting thread may be established.
- The Local Partnerships reporting template includes several new sections aimed at increasing Scope 3 reporting. These may be used if it is possible to obtain regular information in a consistent manner from suppliers and contractors. It may be necessary to consider estimation as the only practical way of including some emissions sources.
- The reporting of Scope 3 from the Council's purchase of goods and services remains a priority action for 2023/24. This is a complex area that could have legal implications.
- A suitable method of recording sequestration to take account of losses is being developed to meet the Woodland Trust Carbon Code and will be reported at a later stage.
- A method for reporting waste associated with Council operations will need to be determined.

3.6.3 The Government has now included factors for homeworking in the 2022 Government Greenhouse Gas Conversion Factors. Conversion factors for previous years are not available. The factors are based on guidance produced by the international consultancy Eco Act. The published conversion factors for 2022 are:

Activity	Unit	Total kg CO ₂ e per unit
Office Equipment	per FTE Working Hour	0.03168
Heating	per FTE Working Hour	0.30907

3.6.4 The Climate Emergency Team is working with colleagues in Human Resources and Organisational Development to develop a robust reporting method to ensure consistency.

3.6.5 Annual performance will be recorded in this section of subsequent Carbon Budget Performance reports in the format below. These Scope 3 emissions will be incorporated into the Carbon Budget when it is re-baselined in 2027/28.

Activity	2022/23 Emissions (tonnes CO ₂ e)	2023/24 Emissions (tonnes CO ₂ e)	2024/25 Emissions (tonnes CO ₂ e)	2025/26 Emissions (tonnes CO ₂ e)	2026/27 Emissions (tonnes CO ₂ e)	2027/28 Emissions (tonnes CO ₂ e)
Office Equipment						
Heating						

3.6.6 It should be appreciated that whilst the Council is very willing to increase the Scope 3 emissions it reports, resource and cost considerations have to be balanced against the potential significance of the enhanced reporting.

3.7 Longer term issues

3.7.1 The Council has set an ambitious target of achieving carbon net zero by 2030 and whilst this is possible, it is necessary to initiate programmes to address some issues that will inevitably take some time to make an impact on emissions. These include but are not limited to:

- Reducing use of fossil fuels which can be achieved by improving the thermal performance of the Estate and by replacing fossil fuel fired systems with an alternative low carbon energy source. Heat pumps are an option in some cases but given that electricity is significantly more expensive than natural gas, ways to reduce the heat demanded need to be examined. Suitable actions are to be developed to take advantage of Public Sector Decarbonisation (PSDS) grant funding.
- Management of water will not have a major impact on emissions but undetected leaks and malfunctioning equipment will add significantly to costs.
- Council buildings are occupied and operated by people. It is vital that all staff are aware of and support the Council's aims regarding emissions – as well as the role they play as individuals. The Council has achieved bronze status from the Carbon Literacy Project and is providing more training opportunities to reach silver status.
- It may be necessary to develop an approach to carbon offsetting. It may be necessary to consider this option in cases where decarbonisation is not technically feasible or if it is unaffordable. It is understood that not all schemes available are credible and that a robust approach will be needed to ensure that best value is achieved.

4.0 FINANCIAL IMPLICATIONS

- 4.1 There are no direct financial implications associated with reporting of progress toward the corporate goal of achieving net zero emissions by 2030. The reduction of emissions will be achieved through the implementation of the Climate Emergency Action Plan (CEAP) which is overseen by the Environment and Climate Emergency Action Group. There will be financial implications associated with delivery of the CEAP. The Climate Emergency Team has been allocated revenue funding of £250k for 2023/24. Capital funding for energy efficiency is allocated within the Assets Budget.
- 4.2 Bidding for Public Sector Decarbonisation (PSDS) grant funding to cover the cost of projects to reduce use of fossil fuels has been set as a priority in the Climate Emergency Action Plan. PSDS provides grant funding for public bodies to fund heat decarbonisation and energy efficiency measures. PSDS now requires applicants to contribute to costs. The level of the contribution can only be estimated once the updated guidance for 2023 applications is published. The PSDS is providing £1.425 billion of grant funding over the financial years 2022-2023 to 2024-2025.

5.0 LEGAL IMPLICATIONS

- 5.1 There are no direct legal implications arising from this report which reports annual emissions against the targets set in the Carbon Budget. This report assists the Council to meet its aim of achieving carbon net zero by 2030. The establishment of annual Carbon Budgets against which actual performance is compared and reported demonstrates that the Council is taking action to address the issues raised by the Environment and Climate Emergency Declaration of July 2019.
- 5.2 It should be noted that the adequacy and action of both national and local government is under scrutiny by environmental interest groups with the threat of future legal challenge. Several local authorities have been criticised for not putting their climate emergency declarations into action and are the subject of scrutiny and challenge for not having taken action.

6.0 RESOURCE IMPLICATIONS: STAFFING, ICT AND ASSETS

- 6.1 The Carbon Budget Performance reports are delivered through existing staff resources using the existing energy management database to report energy and water consumption. Although there are no staffing implications arising directly from this report it should be noted that employees' efficient and effective use of energy is vital to reducing measured emissions.
- 6.2 There are no ICT implications arising directly from this report. However, it should be noted that IT systems and infrastructure contribute directly to emissions as they use energy.
- 6.3 This report quantifies the emissions associated with Council Assets. Energy and water use in Council assets accounted for over 69.2% of gross CO₂e emissions in 2022/23. Whilst the measurement of emissions does not have a direct impact on the operation of Council Assets, analysis of the source data allows cost-effective reduction actions to be identified and prioritised.

7.0 RELEVANT RISKS

- 7.1 The Council has made a series of public commitments to act on climate change including the declaration of an Environment and Climate Emergency in July 2019 that included an instruction to reinstate the Carbon Budget. A failure to demonstrate action and commitment to change would present a reputational risk. There are local authorities across the country who, having declared a climate emergency, are now under scrutiny for having apparently done little to turn their declarations into action.
- 7.2 The Council's corporate risk register has been updated to reflect the environment and climate emergency declaration and reflect the risk climate change presents to the Council and Wirral. The risks associated with the effective delivery of the Environment & Climate Emergency Policy have been identified and mitigated. The Environment and Climate Emergency Action Group will monitor these risks as part of their management of the Environment & Climate Emergency Action Plan.
- 7.3 There are no financial risks associated with bids for the Low Carbon Skills Funding grants through the Liverpool City Region as they are the responsible organisation. If the current combined bid for Low Carbon Skills Funding is unsuccessful it may be necessary to consider alternative funding to deliver heat decarbonisation plans that will be needed to achieve net zero. Public Sector Decarbonisation Scheme funding for capital projects is complex and guidance is subject to change. Risks and mitigation will have to be considered at the detailed project planning stages and it is anticipated that Assets and the Corporate Property Board will lead implementation. There are risks associated with unanticipated changes government policies and guidance.

8.0 ENGAGEMENT/CONSULTATION

- 8.1 The Carbon Budget reporting process was developed in conjunction with recognised expert Local Partnerships. The Council worked with Local Partnerships on the carbon reduction trajectory which was assessed as ambitious but achievable. The performance report shows progress towards the Council's goal of achieving carbon net zero by 2030. It will be available for public scrutiny.

9.0 EQUALITY IMPLICATIONS

9.1 There are no equality implications arising directly from this report. Any equality assessments will be in line with the actions of the Environment and Climate Emergency Policy.

10.0 ENVIRONMENT AND CLIMATE IMPLICATIONS

10.1 Reporting of annual emissions against the year's Carbon Budget is an integral part of the Council's response to the Environment and Climate Emergency declaration. This provides a robust, reliable and consistent means of measuring progress towards the corporate 2030 Carbon Net Zero target.

11.0 COMMUNITY WEALTH IMPLICATIONS

11.1 The reporting of performance against the annual Carbon Budget targets enables the Council to meet its emissions targets which are its locally determined contribution to the Borough-wide goal of achieving net zero before 2041. Reducing emissions contributes directly to protecting the environment by minimising waste and energy consumption.

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APPENDICES

Appendix 1 – Historic emissions from baseline to present

BACKGROUND PAPERS

Wirral Council Climate Emergency Action Plan 2020: Establishing a baseline, carbon budget, emissions reduction trajectory and priority areas for action', Local Partnerships 14/10/20

2022 Government Greenhouse Gas Conversion Factors for Company Reporting: Methodology Paper for Conversion factors, Department of Business Energy & Industrial Strategy, June 2022

TERMS OF REFERENCE

This report is being considered by the Environment, Climate Emergency & Transport Committee in accordance with Section 5.2 (a) of its Terms of Reference.

The Committee is charged by full Council to undertake responsibility for the Council's role and functions:-

(a) in co-ordinating the response to cross-cutting sustainability issues such as reducing carbon emissions, air quality issues, climate change response, improving resource efficiency and developing sustainable energy;

SUBJECT HISTORY (last 3 years)

Council Meeting	Date
Environment, Climate Emergency & Transport – Committee Meeting – Carbon Budgets: 2019/20 baseline to 2027/28 (Minute 9)	14 June 2021
Environment, Climate Emergency & Transport – Committee Meeting – Carbon Budget Performance 2020/21 (Minute 9)	14 June 2021
Environment, Climate Emergency & Transport – Committee Meeting – Carbon Budget Performance 2021/22 (Minute 10)	20 June 2022