



ENVIRONMENT, CLIMATE EMERGENCY AND TRANSPORT COMMITTEE

Monday, 14 June 2021

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| REPORT TITLE: | CARBON BUDGETS: 2019/20 BASELINE TO 2027/28 |
| REPORT OF: | DIRECTOR OF REGENERATION AND PLACE |

REPORT SUMMARY

This report details proposals for reinstating the Carbon Budget and proposes annual emissions limits (the Carbon Budgets) that will allow the Council to measure its progress towards carbon net zero by 2030 as included in the Environment and Climate Emergency Policy. The report is confined to measurement and performance reporting.

| Financial Year | Proposed Carbon Budget (tonnes CO₂e) |
|-----------------------|--|
| 2019/20 | 13,656 (Baseline) |
| 2020/21 | 10,349 (Mobilisation year) |
| 2021/22 | 7,843 |
| 2022/23 | 5,944 |
| 2023/24 | 4,505 |
| 2024/25 | 3,414 |
| 2025/26 | 2,587 |
| 2026/27 | 1,961 |
| 2027/28 | 1,486 (Re-baselining due) |

Actual annual performance is to be reported separately to the Committee as soon as practical after the end of the Municipal Year. The annual Carbon Budget Performance Report will include information relating to: overall progress and the significant factors that have contributed to annual performance; additional emissions that may be included at the next re-baselining and suggest priority areas that need to be addressed.

This matter affects all Wards within the Borough although the Carbon Budget only applies to Council-owned and/or operated Assets.

This is a key decision as it formalises how progress towards the Council's 2030 carbon net zero target will be measured.

RECOMMENDATION/S

The Environment, Climate Emergency and Transport Committee is recommended to:

1. Approve the proposed Carbon Budgets from 2020/21 to 2027/28

2. Approve that the Annual Carbon Budget Performance Reports are tabled in June each year.

SUPPORTING INFORMATION

1.0 REASON/S FOR RECOMMENDATIONS

- 1.1 On 15 July 2019, Council Members declared an Environment and Climate Emergency that included an instruction to reinstate Carbon Budget reporting. The Environment and Climate Emergency declaration has given rise to a new emissions target. Changes to the way the Council operates required the Carbon Budget to be 're-baselined'. The alteration to the timing of the annual Carbon Budget Performance Reports is considered necessary to ensure this information is provided as soon as practical after the end of the Municipal Year to allow the early formulation of practical strategies 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 instruction provided the opportunity to align the Carbon Budget process to national standards that have been introduced since the original Wirral Carbon Budget was established.

3.0 BACKGROUND INFORMATION

- 3.1 At an Extraordinary Council Meeting held on 15 July 2019, Council members voted unanimously to declare an Environment and Climate Emergency (Minute 21 refers). Part of the resolution was a Council request to reinstate Carbon Budget reporting which had been discontinued in 2016. Performance calculations were continued to provide management information but these were not formally reported.
- 3.2 **What is a Carbon Budget?**
- 3.2.1 A carbon budget places a restriction on the total amount of greenhouse gases that may be emitted over a given time. The UK was the first country to set legally binding carbon budgets to limit emissions over a series of 5-year periods.
- 3.2.2 The Council has set itself an ambitious but achievable goal of reducing emissions to net zero by 2030. The Carbon Budget is the most robust method available to set annual emissions targets against which we can measure progress. Without a method of measurement and targeting, it is not possible to set realistic goals, let alone report progress.
- 3.2.3 The Council's 2030 net zero target is its locally determined contribution towards reaching the Borough wide Wirral Cool 2 target of achieving 'net zero' status by 2041.
- 3.3 **Previous Council Emissions Reporting**
- 3.3.1 Over the past decade, the Council has reported on emissions in 3 different ways: The Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES), Greenhouse Gas (GHG) Emissions reports and the Carbon Budget.

- CRCEES was a mandatory Government scheme that required participants to report energy consumption that was converted to tonnes of Carbon Dioxide (CO₂) which had to be paid for. The scheme was supported by extensive guidance and legal requirements and is subject to external audit by the scheme administrators, the Environment Agency, until 2025. The scheme was closed after the 2018/19 reporting year.
- GHG reporting was introduced after the use of the National Indicators 185 and 194 were discontinued. This report, which was requested by the Minister of the time, was voluntary and was to be available to the public and based on the NI reporting scope. The Minister requested that the report adhere to guidance published in the format requested by the Department of Energy and Climate Change. The preferred reporting metric was Carbon Dioxide equivalent (CO₂e) which accounts for other harmful emissions as well as CO₂.
- The Carbon Budget was a Council initiative that was requested by Members (Council 14 December 2009, Minute 77 refers). It reported emissions of Carbon Dioxide to track progress toward a 60% emissions reduction by 2025 against a 2008/09 baseline. Although it was reported in a consistent manner, and was available to the public, it was internally generated and not subject to external guidance or legislation.

3.3.2 The 2019 resolution of Council provided the opportunity to critically examine the Carbon Budget and learn from previous experience to ensure that it remains current, relevant and accessible to interested and affected parties.

3.4 National Context

3.4.1 The Climate Change Act of 2008 sets legally binding targets to reduce carbon dioxide emissions in the UK by at least 80% by 2050, from 1990 levels. The target was amended in 2019 to achieving net zero emissions by 2050.

3.4.2 National Carbon Budgets are set by the Climate Change Committee (CCC) and cover 5-year periods. The targets are presented to Government 12 years in advance in order that policies and strategies can be developed to deliver the necessary emissions reductions. The emissions targets set by the CCC are the maximum emissions for the 5-year period that are required to achieve carbon net zero by 2050.

3.4.3 The five-year targets allow for some variation in performance over the monitoring period. The CCC monitors performance and has published its assessment that whilst the Country has met the targets for the 1st and 2nd Carbon Budgets, and is on track to meet the 3rd, concerns have been expressed that later targets may be missed.

3.4.4 The first six carbon budgets run up to 2037. The UK is currently in the third carbon budget period (2018 to 2022). The Committee has published its advice on the Sixth Carbon Budget which is the first to incorporate the 2050 Net Zero Target.

| Budget | Carbon budget level | Reduction below 1990 levels | Target Met?/CCC Opinion |
|----------------------------------|---------------------------|-----------------------------|--------------------------|
| 1st carbon budget (2008 to 2012) | 3,018 MtCO ₂ e | 25% | Yes |
| 2nd carbon budget (2013 to 2017) | 2,782 MtCO ₂ e | 31% | Yes |
| 3rd carbon budget (2018 to 2022) | 2,544 MtCO ₂ e | 37% by 2020 | On track |
| 4th carbon budget (2023 to 2027) | 1,950 MtCO ₂ e | 51% by 2025 | Off track |
| 5th carbon budget (2028 to 2032) | 1,725 MtCO ₂ e | 57% by 2030 | Off track |
| 6th carbon budget (2033 to 2037) | 965 MtCO ₂ e | 78% by 2035 | Legislated by June 2021. |
| Net Zero Target | At least 100% by 2050 | | |

Source: [https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/#:~:text=UK%20emissions%20were%2044%25%20below,fifth%20\(2028%2D2032\).](https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/#:~:text=UK%20emissions%20were%2044%25%20below,fifth%20(2028%2D2032).)

3.4.5 Although the National Carbon Budget limits are several orders of magnitude greater than those proposed for the Council, they are relevant as they are legally binding and the strategies that are formulated will inevitably apply to the public sector.

3.4.6 In their report 'Wirral Council Climate Emergency Action Plan 2020: Establishing a baseline, carbon budget, emissions reduction trajectory and priority areas for action' Local Partnerships have recommended that Wirral Council's first budget cycle should run until 2027 to ensure that future budgets are aligned with the Governmental reporting cycle. The period to the start of the 4th National Carbon Budget in 2023 should be regarded as a mobilisation period.

3.5 Regional Context

3.5.1 The Metro Mayor and Combined Authority have set the ambition for the Liverpool City Region (LCR) to be the cleanest, greenest city region in the country, promoting a balanced and sustainable land use strategy. The LCR has declared a Climate Emergency and is committed to making the City Region net zero carbon by 2040.

3.6 Borough Context

3.6.1 The Wirral 'Cool 2' strategy aims to achieve borough-wide carbon net zero status by 2041. The Council's aim to achieve net zero status by 2030 is its locally determined contribution to this goal.

3.7 Metrics

3.7.1 The initial Carbon Budget reported emissions of carbon dioxide alone. The SECR guidance recommends reporting in carbon dioxide equivalent (CO₂e). CO₂e is the universal unit of measurement to indicate the global warming potential (GWP) of greenhouse gasses, expressed in terms of the GWP of one unit of carbon dioxide.

The GWPs used in the calculation of CO₂e are based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period. (This is a requirement for inventory/national reporting purposes).

3.8 System Boundary

- 3.8.1 Local partnerships suggested the Council take a Financial Control or Operational Control approach to the emissions reported. In practical terms both mean that the Council only report on Assets for which the Council can take actions to control energy use.
- 3.8.2 It is recommended the Council uses the 'Financial Control' approach. This is identical to the reporting scope that was required by the Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES) which was subject to internal and external audit. This will include all Council owned and operated properties where the Council is responsible for procuring and paying for energy and water as well as energy procured and paid for on an unmetered basis (street lighting). Properties where the Council is not responsible for procurement and payment of energy and water bills are excluded. Schools are excluded as they operate devolved budgets. Whilst the Council may advise, it cannot control how Schools choose to operate.

3.9 Scopes of emissions

- 3.9.1 The Government Guidance defines three 'scopes' of emissions.
- Scope 1 (direct emissions) emissions are those from activities owned or controlled by an organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.
 - Scope 2 (energy indirect) emissions are those released into the atmosphere that are associated with consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of an organisation's energy use but occur at sources the organisation does not own or control.
 - Scope 3 (other indirect) emissions are a consequence of actions that occur at sources an organisation does not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by an organisation, waste disposal, materials or fuels an organisation purchases. Deciding if emissions from a vehicle, office or factory used are Scope 1 or Scope 3 may depend on how operational boundaries are defined. Scope 3 emissions can be from activities that are upstream or downstream of an organisation.
- 3.9.2 The Carbon Budget includes scope 1, 2 and 3 emissions for emissions sources that have consistent and reliable reporting streams and where annual performance information can be converted to CO₂e using conversion factors from credible sources that can be referenced.

3.10 Baseline and re-baselining

- 3.10.1 In late summer 2020 the Council started working with Local Partnerships on the Carbon Budget which needed to be re-baselined to reflect the changes in the way in which the Council now operates. Local Partnerships (jointly owned by the Local Government Association, HM Treasury and the Welsh Government) provides specialist support to the public sector in many areas including climate response. The Local Partnerships recommendations was to adhere to the Streamlined Energy and Carbon Reporting (SECR) guidance. This is very similar to guidance that was complied with in the preparation of the Council's mandatory Carbon Reduction Commitment Energy Efficiency Scheme submissions. The guidance suggests reporting in units of carbon dioxide equivalent (CO₂e) using the annually updated conversion factors available from the Government website. The conversion factors have been used to compile the Greenhouse Gas Emissions reports, so the Council is familiar with their use as well as reporting the different 'scopes' of emissions.
- 3.10.2 The first step in establishing a Carbon Budget is to set a baseline against which performance may be assessed. The baseline was developed in consultation with Local Partnerships in September 2020 using the last full financial year's consumption information (2019/20). The breakdown of Wirral Council's baseline emissions is tabulated below.

| Scope | Emissions Type | Emissions (tCO ₂ e) | Percentage of Total Emissions |
|------------------------|------------------------------------|--------------------------------|-------------------------------|
| Scope 1 | Heating | 5,994.67 | 43.9% |
| | Fugitive Emissions | 0.00 | 0.0% |
| | Authority's Fleet | 599.99 | 4.4% |
| Scope 2 | Electricity | 5,924.40 | 43.4% |
| Scope 3 | Staff Travel | 482.03 | 3.5% |
| | Transmission & Distribution Losses | 502.97 | 3.7% |
| | Water | 151.94 | 1.1% |
| Total Emissions | | 13,656.00 | 100.0% |

- 3.10.3 The method was verified by using the same source information to calculate emissions from first principles. Results showed a slight variation that was ascribed to rounding error. This allowed Council Officers to fully understand how the calculation tool operates and to replicate the process should the need arise. Local Partnerships are making their calculation spreadsheet available free of charge and whilst it is a convenient and powerful tool, users should understand how it operates. The tool has been reviewed by the Carbon Disclosure Project for compliance and can be used to disclose council emissions data. A copy of the Local Partnerships calculation tool is included as Appendix 1.

3.11 Information Sources

- 3.11.1 The source of annual consumption information for purchased electricity, natural gas, and water is the SystemsLink energy management database. Invoice information is obtained monthly from the various suppliers. Reports are run on an apportioned

basis which allows the user to define the precise period of the report, in this case a Financial Year.

- 3.11.2 Oil fuel consumption is based on the litres purchased for heating systems from records provided by colleagues in Procurement – See ‘Scope 1’ of Appendix 1. It is assumed that purchases are equal to consumption which is the accepted approximation method when dealing with liquid and solid fuels.
- 3.11.3 Fleet emissions are calculated from annual mileage records provided by colleagues in the Transport Section. Vehicles are classified into the categories listed on the ‘Scope 1’ tab of Appendix 1 and the workbook is set up to calculate emissions for the year.
- 3.11.4 Business mileage emissions are calculated from the mileage claims submitted to Finance. Vehicles are classified into the categories listed on the ‘Scope 3’ tab of Appendix 1 and the workbook is set up to calculate the emissions for the year.

3.12 **Setting the Carbon Budget**

- 3.12.1 The Council has committed to achieving carbon net zero emissions by 2030 and is starting from a baseline of 13,656 tonnes CO₂e, so a reduction trajectory can be proposed. The Council worked with Local Partnerships in a series of workshops to examine the actions included in the Climate Emergency Action Plan and to assess whether these would allow the Council to achieve the 2030 net zero target. Local Partnerships concluded that, although the aim is ambitious, it is possible to meet and exceed the required performance.
- 3.12.2 Working from the baseline figure and considering early actions such as purchasing REGO (Renewable Energy Guarantees of Origin) certified ‘green’ electricity an annual percentage reduction of 24.22% is recommended as achievable. It is considered that setting exacting emissions limits early in the process will capitalise on initial enthusiasm and help to establish cultural changes needed to achieve the Council’s goals. It must be noted that a percentage annual reduction of a target can never reach zero since there will always be a residual amount. The proposed annual Carbon Budgets to 2027/28 as recommended by Local Partnerships are tabulated below:

| Financial Year | Proposed Carbon Budget (tonnes CO₂e) |
|-----------------------|--|
| 2019/20 | 13,656 (Baseline) |
| 2020/21 | 10,349 (Mobilisation year) |
| 2021/22 | 7,843 |
| 2022/23 | 5,944 |
| 2023/24 | 4,505 |
| 2024/25 | 3,414 |
| 2025/26 | 2,587 |
| 2026/27 | 1,961 |
| 2027/28 | 1,486 (Re-baselining due) |

3.12.3 Local Partnerships ran a series of workshops with Council officers from across the organisation that examined the impact of actions that are included in the Climate Emergency Action plan. In their final report they concluded that reaching carbon net zero by 2030 is achievable although challenging.

3.12.4 The Local Partnership performance evaluation assumed that the following will be achieved:

- Replacing all fossil fuel heating with heat based on an electrical source (e.g. heat pumps, electric boilers or connection to a wider heat network with a heat pump source.) This will improve the efficiency of the heat provision and switches the fuel source to electricity. Replacement of existing heating systems is a complex issue and specific recommendations cannot be made without detailed technical assessment
- Install Building Management Systems (BMS) – to improve control of lighting, heating and electrical plant.
- LED lighting upgrades.
- Install building mounted solar PV (Photo-Voltaic) systems.
- Complete existing street lighting LED replacement programme.
- Fleet vehicles – replace all small vehicles (i.e. all cars and class I and class II vans) with electric (EV) equivalents by 2022.
- Transition the fleet class III vans to EVs from 2027-2030.
- Take measures to reduce emissions from staff business mileage through changes to expenses policy (such as phasing out mileage payments for fossil fuel vehicles), potentially supporting staff to purchase EVs through a salary sacrifice scheme and provision of electric fleet alternatives.
- Purchase all electricity supplies from 100% certifiable renewable energy sources.

These actions are identified in the Climate Emergency Action Plan which will be overseen by the Environment and Climate Emergency Action Group.

3.13 **Annual Reporting Schedule**

3.13.1 The original Instruction to formulate a Carbon Budget included a requirement to report at the same time as the financial budget in February each year. This meant that the last complete Carbon reporting year was almost a year-old when presented and it is considered that the demands of the Financial Budget drew attention away from the Carbon Budget performance updates.

3.13.2 To report a full financial year based on the amount of energy that has been invoiced, it is proposed that the Annual Carbon Budget be presented for approval to the Environment, Climate Emergency and Transport Committee in June each year. This is considered the earliest possible opportunity to gather and process the required information and prepare the formal report. It will allow the Council to take any remedial action that may be required in good time and ensure that each year's performance receives the scrutiny it requires.

3.14 **Annual Performance Calculation Method**

3.14.1 Annual Carbon Budget Performance reporting will use the same calculation methods, the same source of conversion factors and the same system boundary that was used to determine the baseline. This will ensure consistency over time.

3.15 Annual Report Content

3.15.1 It is proposed that the Annual Carbon Budget Performance report must include, as a minimum, details on:

- Actual annual emissions compared with the Carbon Budget for the year.
- Comment on overall performance.
- Societal/Environmental factors contributing to annual performance.
- Council Actions that have contributed to actual performance.
- Brief descriptions of Council actions completed and planned to meet the next year's target.
- Priorities to be addressed.

3.16 Expansion of emissions being reported

3.16.1 The Carbon Budget Baseline is founded on the information this is available and will be consistent over time. It is acknowledged that the report is not comprehensive and needs to be expanded over time. This will require the development of information flows that can be repeated in a consistent format. Rather than estimating a 2019/20 Carbon Dioxide equivalent, it is proposed that additional emissions are recorded for each reporting year and incorporated into the Carbon Budget once stable reporting in CO₂e has been established.

4.0 FINANCIAL IMPLICATIONS

4.1 There are no direct financial implications associated with setting annual Carbon Budgets nor 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 will be overseen by the Environment and Climate Emergency Action Group. There will be financial implications associated with delivery of the CEAP.

5.0 LEGAL IMPLICATIONS

5.1 There are no direct legal implications arising from this report which proposes annual emissions targets that will assist the Council to meet its aim of achieving carbon net zero by 2030. The establishment of annual Carbon Budgets against which actual performance will be compared and reported demonstrates that the Council is taking tangible 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 inaction of both national and local government is under scrutiny by environmental interest groups, with the threat of potential legal challenge in some areas. 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 doing so.

6.0 RESOURCE IMPLICATIONS: STAFFING, ICT AND ASSETS

6.1 The Carbon Budget and subsequent performance reports will be delivered by 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 IT 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 Energy and water use in Council assets accounts for 92.1% of the Council's Carbon Budget baseline of 13,656 tonnes CO₂e. Whilst the measurement regime does not have a direct impact on the operation of Council assets, analysis of the source data allows cost-effective emissions 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 having apparently done little to turn their declaration into action.
- 7.2 The Council's corporate risk register has been updated to reflect the environment and climate emergency declaration and the identification of the risk climate change has on the Council, Wirral as a place and its residents. The delivery of the Environment & Climate Emergency Policy and working jointly with partner organisations and communities forms the mitigation to such risk. 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.

8.0 ENGAGEMENT/CONSULTATION

- 8.1 The proposed Carbon Budgets up to 2027 were developed in conjunction with recognised experts, Local Partnerships. The Council worked with Local Partnerships on the carbon reduction trajectory. Following analysis of the Climate Emergency Action Plan, Local Partnerships concluded that the ambitious carbon net zero goal is achievable by 2030.

9.0 EQUALITY IMPLICATIONS

- 9.1 Wirral Council has a legal requirement to make sure its policies, and the way it carries out its work, do not discriminate against anyone. An Equality Impact Assessment is a tool to help council services identify steps they can take to ensure equality for anyone who might be affected by a particular policy, decision or activity.
- 9.2 The potential impact of the proposals has been reviewed with regard to equality and it is concluded that there is no relevance to equality.

10.0 ENVIRONMENT AND CLIMATE IMPLICATIONS

10.1 The Carbon Budget is an integral part of the Council's response to the Environment and Climate Emergency declaration and provides a robust, reliable and consistent means of establishing annual emissions targets against which it enables measurement of progress towards the corporate 2030 Carbon Net Zero target.

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APPENDICES

Appendix 1 Wirral Council Carbon Budget Baseline 2019/20

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

SUBJECT HISTORY (last 3 years)

| Council Meeting | Date |
|---|---------------------|
| Council – Extraordinary Meeting – Declaration of Environment and Climate Emergency (Minute 21) | 15 July 2019 |