Report to the Cabinet

Wards: All

24 January 2022

Carbon Pathway to Carbon Neutrality and Zero Carbon

Report of the Director of Regeneration

This item is not exempt
Therefore exempt reasons are not applicable

This is a key decision. The matter is in the Forward Plan
0054/21

1. Purpose of the Report and Summary

1.1 To set a net zero target for the city of 2045 and an ambition for the Council as a business to become net zero ready at the earliest opportunity.

1.2 The report contains the outputs of the Carbon Pathway and action plan for Hull.

1.3 The report sets out additional actions for the Council to become net zero ready.

1.4 The Report focuses upon the climate change impact of the Council as a business and its place making role in delivering net zero within the city.

1.5 The report is split into two parts. Part 1, the Background, provides the local and national policy context as well as the details on the carbon emission and energy use of the Council. Part 2 the Challenges and Consequences sets out the challenges in meeting the 2030 carbon neutral target and the steps the Council needs to take to take as an organisation, service provider and community leader/place maker.

1.6 The issues raised in the report are considered to enable the delivery of the carbon neutral target by 2030 and journey to net zero by 2045, embedding carbon reduction and climate change adaptation within the Council and its place making activity.

1.7 Provides an update on the progress made by the Council and city, in addressing carbon reduction and the requirements of the climate emergency declaration.

1.8 The Report uses the outcomes of the carbon pathway work undertaken with the Carbon Trust, to set out a 2045 vision for a carbon net zero Hull and milestones over the next 10-15 years.

1.9 The 2045 net zero vision creates a clear narrative for the future of Hull and enables the Council as a business and place maker to direct investment to meet the vision and place individual projects within a wider context for the city.

1.10 The report identifies a series of additional actions required by the Council to become carbon neutral by 2030 and net zero ready, at the latest, by 2045 including draft indicators.

1.11 That the current approach to carbon reduction based on existing assessment criteria (counterfactual baselines) is no longer compatible with the carbon neutral and net zero targets.

1.12 Moving to net zero will entail difficult decisions regarding investment priorities and criteria. This could see a lower number of projects undertaken but to a higher carbon reduction and sustainability standard or increased capital expenditure.

1.13 The capital and revenue budget implications of the recommendations above and additional carbon capital programme submissions are in Appendix 1a and 1b.

1.14 Highlight the commitments already made by the Council though the delivery of capital programme projects on energy generation and the transition to electric vehicles, as well as the significant role of major investment and strategic direction to stimulate and enable active travel in the city as the largest single source of carbon emissions.

2. Recommendations

2.1 **Carbon Neutral Pathway and Delivery Plan**

That a pathway and delivery **plan** for the achievement of a science-based net zero for the city is provided to the meeting of

Cabinet in September 2022, based upon the following assumptions:

2.1.1 That the city as a whole will achieve net zero by 2045.

2.1.2 That the Council will achieve net zero in relation to all its assets, excluding Housing, by 2040.

2.1.3 That the target for Housing will be the same as for the city as a whole, that is, 2045.

2.2 That the **Environmental Policy Statement** is reported to the same Cabinet meeting in September 2022 updated to reflect the proposed 2040 net zero target for the Council.

2.3 **Net Zero Governance Framework and Emissions Reporting**

To support that pathway and delivery plan a Net Zero governance framework is developed for investment strategy, policy development and commissioning decision making that takes account of the climate change mitigation, risks, impacts, adaptation requirements and the costs of inaction.

2.4 That the governance framework for retrofit and new build projects across al portfolios include an assessment of the additional future retrofit costs of not building or retrofitting to net zero ready today.

2.5 That when reviewing contracts with Council companies and outsourced services and in working in conjunction with the Hull Learning Partnership the Council develop a framework for annual carbon emission reporting be developed using the Greenhouse Gas Protocol and latest BEIS conversion factors.

2.5.1 That a similar carbon reporting framework is developed for reporting through the Council's business waste generation and collection service and incorporated within the Councils carbon reporting framework.

2.5.2 That alongside the development of the pathway and delivery plan the Commissioning and Procurement Strategy is revised to reflect the Councils carbon neutral and net zero targets and incorporates the expectation that contractors will provide annual carbon emission reporting in accordance with the framework as part of their commitment to deliver Social and Environmental Value.

2.6 **Training and Development**

That the Assistant Director (Organisational Development and Human Resources) review the definition of mandatory training for its annual programme of member and officer training and revise the same so as to include **Carbon Literacy training** as a mandatory element, and to raise the same expectation with its in-house companies.

2.7 **Preliminary Programme of Activity**

In advance of agreement of consideration of the pathway and delivery plan that the Council adopt preliminary targets to accelerate progress toward the net zero target as follows:

2.7.1 That the Council transfers to a green gas tariff for the Guildhall, City Treasury, Warehouse 8, Warehouse 9, Lowgate Centre and Wilson Centre as soon as practicable.

2.7.2 That all non-domestic property within the property portfolio is retrofitted following the PAS2035 criteria and associated standards from April 2022.

2.7.3 That Heat Decarbonisation Plans are developed for all corporate property sites incorporating the PAS2035 requirements, to enable capital programme submissions, prioritising those within the district heating red line and the 16 currently electrically heated followed by the remainder of the estate in order of highest carbon emissions.

2.7.4 That the commercial property portfolio is reviewed and the costs to bring property to an EPC B standard by 2030.

2.7.5 That the Western Library, being the only remaining oil heated corporate building, be reviewed to determine the costs to transition electric heating by May 2022.

2.7.6 That in developing the revisions to the Fleet contract with KWL from April 2022, a requirement be made for all leased Council fleet vehicles under 3.5 tonnes, upon renewal, to be moved from petrol or diesel to electric vehicles, or hybrid vehicles where the market is unable to provide an electric solution within the timescales.

2.7.7 That the Council develops plans to replace the use of diesel with Hydrotreated Vegetable Oil as a transitional fuel that will deliver a 90% carbon emissions reduction.

2.7.8 To note the existing decisions of Cabinet on 26 October 2020 initiating the Carbon Neutral Hull Programme are being progressed as follows:

2.7.8.1 The outline business case for a city centre district heating network has been finalised and will be presented to Cabinet in March 2022 for a decision upon investment;

2.7.8.2 The three projects to facilitate energy generation through wind turbine, solar farm, and solar canopy developments have progressed to site assessment with a determination upon locations in Spring 2022;

2.7.8.3 The development of a partnership with Transpennine Express, Stagecoach and EYMS toward commissioning the design and implementation of a scheme to facilitate the electrification of the Hull Interchange Bus Electrification and the use of electric buses is being progressed through the developing Bus Partnership;

2.7.8.4 The business case for investment in the electric vehicle infrastructure to support the transition of the council fleet vehicles to electric traction is being progressed in parallel with the transition of Council vehicles to electric charging.

2.7.8.5 The Local Transport Plan, Cycling and Walking Strategy continues to be progressed through capital investment to promote cycling and walking and policy development through the development of proposals within the Local Plan.

3. Reasons for Recommendations

3.7 Human induced climate change is already happening and a failure to act is increasing the threat to the city[1].

3.8 The recommendations provide a framework within which the Council can continue the existing carbon reduction activity undertaken by the Council and increase the robustness, speed and pace of delivery to meet the scale of the challenge

3.9 The Council has a key responsibility as the leading public sector body in the City and, through its place making role, to demonstrate carbon emission reduction, climate impact risk assessment and climate adaptation and enable other stakeholders to accelerate their climate change activity.

[1] https://www.ipcc.ch/report/ar6/wg1/

4. Impact on other Executive Committees (including Area Committees)

4.7 The climate emergency declaration requires that all decision making, and scrutiny functions of the Council take carbon reduction into account.

4.8 All decision making and scrutiny functions of the Council have an influence upon strategy and policy development as well as funding by the Council, whether that is internal budgets or external partner funding or funding bids and submissions.

4.9 The proposed governance changes will help Executive committees take more informed decisions supported by the proposed Carbon Literacy training.

5. Part 1: Background

Glossary

5.7 It is important in discussing the Councils and cities approach to addressing climate change that there is a clear understanding of the meaning of common words and phrases within this growing area of policy, strategy, and funding development.

5.8 Appendix 2 contains a comprehensive glossary of words and phrases that will assist in understanding both what is recommended in the report but also in wider discussions. Some phrases have radically different solutions so understanding the implications is paramount.

Context

5.9 The Inter-Governmental Panel on Climate Change Sixth Assessment Report[2] on the science of climate change published in August 2021 makes it clear that humans are causing climate change and that the latest science is a red flashing warning light to us all. (Appendix 3 Europe factsheet)

5.10 The carbon neutral declaration made by Council and the action undertaken so far, needs to be seen through the lens of the recent climate change experience of the city. The 2007 and 2013 floods and the subsequent £237m, and counting, investment in flood adaptation is a direct result of climate change and the continued increase in greenhouse gases in the atmosphere.

5.11 Estimates produced by DEFRA suggest the 2007 flooding in Hull cost the NHS £1m, the economy £2m, and individuals in loss of quality of life a total of £19m.

[2] Ibid 1

5.12 Carbon reduction, climate risk assessments and adaptation action therefore are the only action that will reduce the future severity of climate impacts.

5.13 The international target, agreed in the Paris Agreement[3], is to keep global temperature increase well below 2^0c and preferably 1.5^0c above pre-industrial levels. At present the world is on track for a global temperature increase of 2.9^0c[4] by the end of the century and the latest Climate Adaptation Risks[5] assessment is based on 2^0c and 4^0c scenarios. Global temperatures are currently1.1^0 c warmer. The agreements reached at COP26 in Glasgow if fully implemented would lead to a 2.4^0 c increase and if all the agreements and nationally defined contributions are fully implemented would lead to a 1.9^0 c increase. The latest science states that an increase of above 1.5^0 c would lead to dangerous tipping points in climate impacts.

Council Climate Emergency Declaration Implications

5.14 On the 27th April 2020 Cabinet agreed the 2030 Carbon Neutral Hull Strategy (Minute 114) following the declaration of a Climate Emergency by Council on the 21st March 2019.

5.15 The Councils climate emergency declaration makes the following key commitments:

- Council resolves to do everything within the Council's power to make Hull carbon neutral by 2030, considering both production and consumption emissions.

- Council commits to continuing to work with partners across the city and region to deliver this new goal through all relevant strategies and plans.

- Council also resolves to call on the Government to provide the powers and resources to make the 2030 target possible, to work with other Governments to determine and implement best practice methods to limit Global Warming to less than 1.5°C and to continue to work with partners across the City and region to deliver this new goal through all relevant strategies and plans.

- Council requests a report back to Full Council within six months on the actions that will be taken to address and action this resolution.

[3] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
[4] https://climateactiontracker.org/global/temperatures/
[5] https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/

5.16 The commitments therefore require the Council to do the following:

- To have a comprehensive understanding of the production and consumption emission of the Council as a business and the city.
- To undertake all action, within the Councils available powers, to achieve carbon neutral for the city by 2030, but not a commitment to be carbon neutral by 2030
- To embed carbon neutral action in all strategies and plans and in working relationships with partners
- To lobby Government for the necessary powers and resources to meet the 2030 target
- To work with Government to meet the Paris Agreement[6] of no more than a 1.5°C increase in global temperatures by 2050 (net zero emission by 2050)
- A Strategy and Action plan to meet the commitments to full Council

5.17 Implications of the commitments for the Council are:

- To fully understand the Council's and Hull's carbon emissions across production (Scope 1 and 2) and consumption (Scope 3) emissions and for the Council to be an exemplar for the city, through aiming to become carbon neutral by 2030 with a clear route beyond this to net zero by 2050.
- To use the Council's place making role to drive carbon neutral action and delivery through its dealings with Government, businesses, public sector and voluntary sector organisations and residents and visitors.
- To embed within the decision making governance of the Council carbon accounting to ensure full visibility of the carbon impacts of policy, strategy, external funding bids, capital and revenue budget submissions is understood and accounted for.
- To undertake gap analysis for all Government consultations and publications to understand what Hull needs to enable net zero transition and inform partner and stakeholder discussions

5.18 The commitments placed on the Council by the motion are set within the wider development of Government policy, to meet net zero by

[6] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

2050, and the views of the Committee on Climate Change, which monitors the Governments policy commitments to meet the 2050 target and climate risk and adaptation.

5.19 The 2030 carbon neutral target enables the city to achieve "net zero" through the purchase of carbon credits for any carbon emissions that are emitted in 2030 and each subsequent year. This, however, will not achieve "real net zero" as defined in the Climate Change Act or the Carbon Pathway for Hull. The period therefore between the 2030 carbon neutral date and 2045 net zero date as a result of the carbon pathway analysis, provides the time for the city and Council to remove all carbon emissions through moving to net zero technology, solutions, and approaches.

5.20 The timescale differences reflect the current position that without significant Government support net zero cannot be reached by 2030 and 2045 provides a more deliverable date for the city. However, this will still mean that net zero solutions will be implemented across the city by all sectors by 2030.

National Policy Context

5.21 There is no national carbon neutral target only a net zero one set out in the Climate Change Act 2008 amended in 2019[7]. There is a fundamental difference between carbon neutral and net zero which is detailed in the glossary in Appendix 2.

5.22 Government policy for net zero is developing rapidly and October 2021 saw the publication of two key documents the Net Zero Strategy and Buildings and Heat Strategy. These provide the key strategic direction for policy over the period to 2050. The Government has committed the UK to reducing its emission by 68% by 2030 and 78% by 2035[8]. These are economy and society changing targets.

5.23 The Government policy framework over 2021 is as follows:

Treasury Net Zero Review (interim report)[9]	December 2020
Transport Decarbonisation Plan published[10]	July 2021
Revisions to the Green Book for climate change[11]	October 2020
Hydrogen Strategy published	August 2021
Heat and Buildings Strategy	October 2021
Net Zero Strategy	October 2021

[7] https://www.legislation.gov.uk/ukdsi/2019/9780111187654
[8] https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035
[9] https://www.gov.uk/government/publications/net-zero-review-interim-report
[10] https://www.gov.uk/government/news/government-publishes-worlds-first-greenprint-to-decarbonise-all-modes-of-domestic-transport-by-2050
[11] https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

In addition, the National Audit Office published a report in July 2021 on the role of local government in delivering net zero[12].

5.24 The Government has also published additional changes to Building Regulations that will come into force by the end of 2021 to require the installation of electric vehicle charge points and charge point readiness in both new build and refurbished domestic and non-commercial properties. This will impact the main council budget and Housing Revenue Account.

5.25 These key policy announcements will drive funding bids, and this is already being felt in funding for housing, corporate property as well as Freeport Business Plans. This will increase, and therefore comprehensive understanding of climate change across the authority is essential to enable success.

Hulls Policy Framework

5.26 The 2030 Carbon Neutral Strategy sets out the key challenges and opportunities for the city to achieve carbon neutrality by 2030, and by action, move towards net zero based around 8 key themes:

- Heat
- Power
- Mobility
- Fair Transition
- Consumption
- Carbon Sequestration
- Jobs and Skills
- Innovation

5.27 To support the understanding of what is required in terms of outputs for Hull to become carbon neutral by 2030, and the requirements for net zero by 2045, the Council has worked with the Carbon Trust to undertake Carbon Pathway analysis across five sectors:

- Industry
- Transport
- Buildings
- Power
- Land-use, land-use change and forestry (LULUCF)

The detailed pathways set out a number of milestones for each sector, alongside which an action plan and vision have been developed (Appendix 3). These will form part of a revised Action Plan for the city.

[12] https://www.nao.org.uk/report/local-government-and-net-zero-in-england/

5.28 The Pathway outputs and milestones will form a key connection between this work and the Economic Strategy Delivery Plan. Providing the landscape for economic development within the city to enable the outputs and milestones to be achieved. In essence the Economic Strategy must deliver carbon neutrality and provides the initial five year net zero economic strategy plan for the city.

5.29 The Carbon Pathways assessed three scenarios to net zero for the city based upon data provided by Department of Business, Energy and Industrial Strategy, National Grid and Northern Powergrid in their Future Energy Scenario documents. These indicated, based upon different decarbonisation assumptions, the city could commit to a net zero target in 2045, 2047 or 2050 depending upon the Council's level of ambition.

5.30 The pathways in Appendix 4 have been based upon a high ambition scenario for the city to achieve net zero by 2045. This more ambitious target enables the city to drive innovation and change.

5.31 However, while the Pathway work has set out a journey for the city to become net zero by 2045 this would still leave some emissions which will need to be sequestrated until these can be reduce further.

5.32 In addressing the carbon neutral declaration and net zero target in the pathway there is a need to split the action of the Council across three areas of influence;

- as an organisation,
- as service provider and
- as community leader and place maker

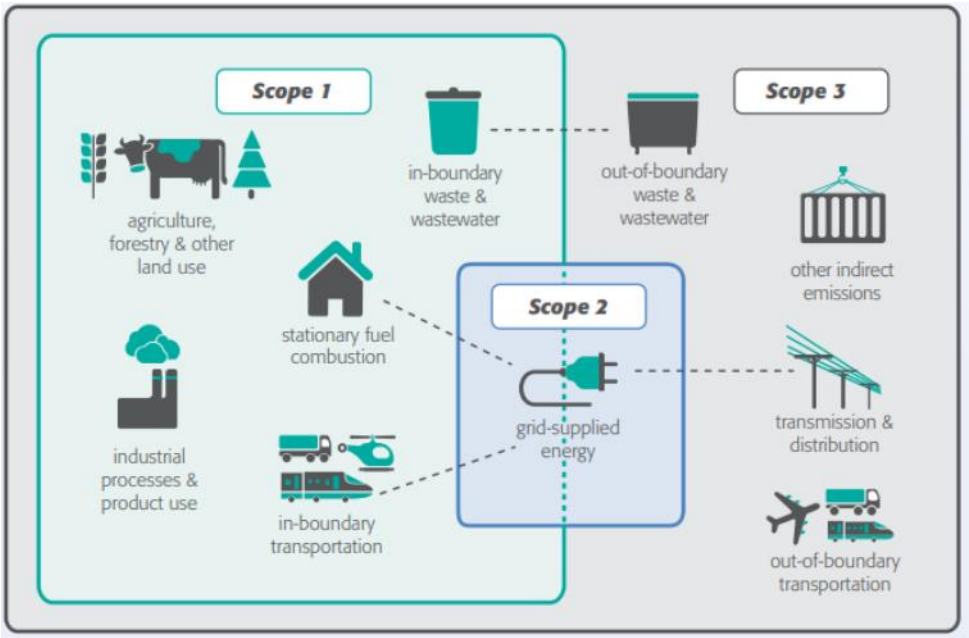
The 2030 Carbon Neutral Strategy and Net Zero Pathway work is focused primarily upon the Council's community leadership and place making role. However, it is the Councils actions as an organisation and service provider that are key to demonstrating the community leadership and place making role.

5.33 Therefore, the Council should demonstrate its community leadership by setting out an ambition to become net zero as a business by 2040 at the latest.

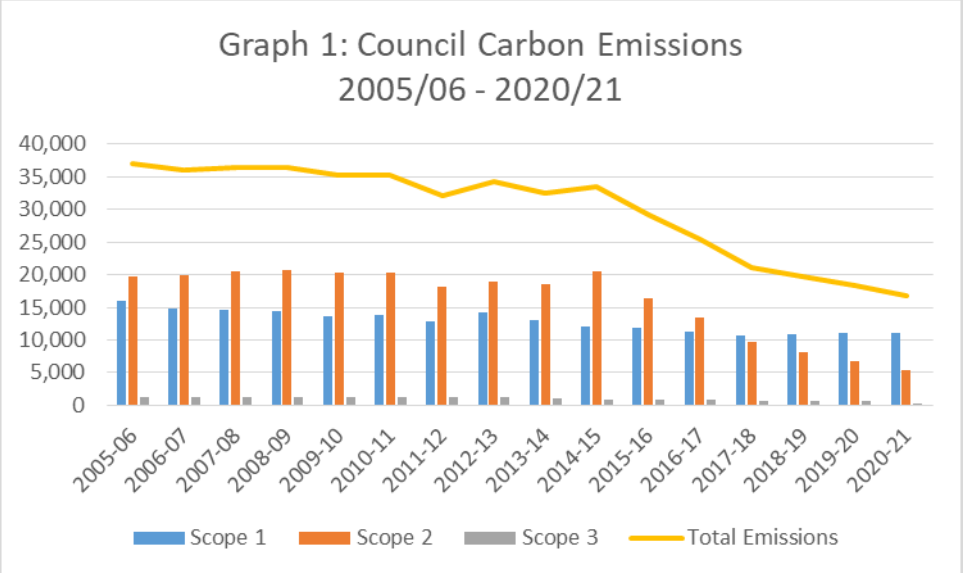
5.34 The Council has undertaken a numerous projects and activities in reducing carbon emission and laying the groundwork for future carbon reduction as set out in Appendix 5. These will need to be increased in pace and scope to meet the Councils and cities net zero ambitions.

<u>Council Carbon Emissions and Reporting</u>

5.35 The Councils carbon emissions are reported using the Greenhouse Gas Protocol an international standard for reporting. Carbon emissions are recorded under one of three areas known as Scopes 1, 2 and 3 as illustrated in the diagram below[13].



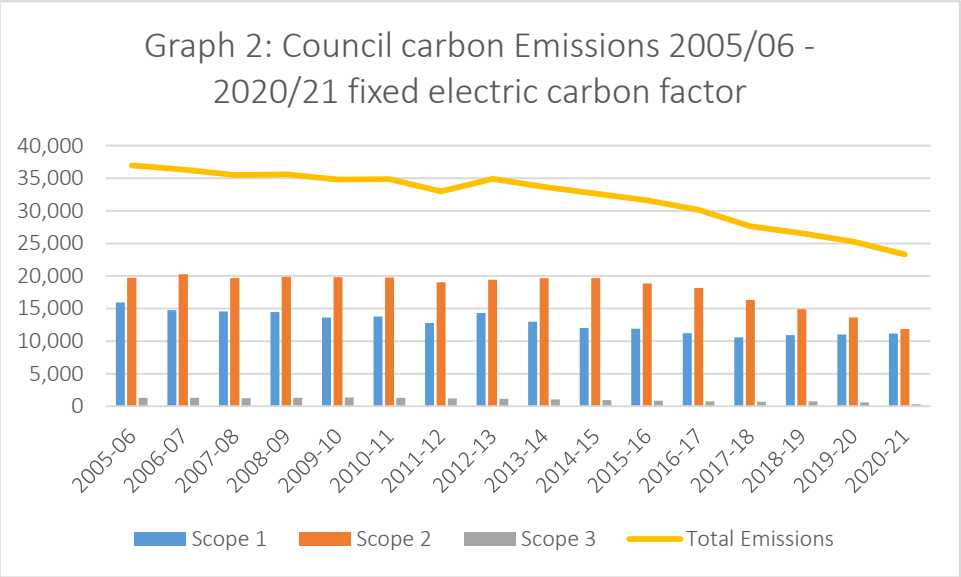
5.36 The city council has seen carbon emission significantly decrease by 54% between 2005/6 and 2020/21 with a marked reduction since 2015/16 (Graph 1).



[13] https://ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities

5.37 The Council has no statutory requirement to report its carbon emissions. However, the Council reports carbon emission on the corporate web site each year[14].

5.38 However, the significant reduction has primarily been delivered by reductions in the carbon emission from electricity generation (Scope 2) driven by the increase in renewable energy (Graph 2). Taking this into account the Councils emission have only dropped by 41.6% since 2005/6.



5.39 Looking at the figures in Graph 1 it can be seen that Scope 1 emissions (gas, oil and fleet vehicles) have only dropped by 30% over the period while Scope 2 (electricity) have dropped 73% and staff using their own vehicles to carry out Council business and water use (Scope 3) have dropped by 76%. It is important to note that Scope 3 only accounts for 1.83% of the Councils total carbon emissions.

5.40 The cost to offset the Councils carbon emission in 2020/21 of 23,330 tonnes and achieve carbon neutrality would be approximately £233,300.

5.41 In addition, the Councils property disposal and acquisition programme has removed 1,080 tonnes[15] of carbon from the corporate carbon reporting, which has in effect reduced the 2020/21 emissions by 5.96%.

5.42 However, it is important to note that in terms of the Councils Scope 3 emissions (often referred to as the consumption emissions) the

[14] http://www.hull.gov.uk/environment/climate-change
[15] This is calculated based upon disposed properties last full years energy use and applying the latest BEIS carbon conversion factor and the subtracting this from the last full years carbon emissions of acquired properties

Council currently does not have a comprehensive picture. The calculation should also include the carbon emissions from the following areas of business:

- Housing communal areas only for which the Council is responsible
- Waste generated from own operations:
    - Glass
    - Organic: food and drink waste
    - Commercial and industrial waste
    - WEEE - mixed
    - Metal: mixed cans
    - Plastics: average plastics
    - Paper and board: mixed
- Outsourced fleet sometimes called spot hire

Further, the Council does not calculate the carbon emission from outsourced Scope 3 emissions which would include:

- Council owned companies (HCaL and KWL)
- NPS Humber activity
- Schools still under Council control
- Leased assets

5.43 To obtain a more comprehensive understanding of its carbon emission and therefore meet its carbon neutral and proposed net zero targets these additional elements need to be measured and the Council needs to become more focused upon the impact of its emissions within its purchasing and commissioning processes.

5.44 The Councils consumption emission are twice as high as the emissions measured to date and proposed.

<u>Capital Programme 2030 Projects</u>

5.45 The Council has five current capital programme projects in progress at present.

5.46 The district heating project will be brought to Cabinet in February 2022 following a Cabinet/CST Away Day presentation of the business case and discussion in January 2022.

5.47 The corporate solar roof tender has been awarded and a report on suitable roofs for development and capital and revenue impacts will be brought Cabinet February/March 2022.

5.48 The wind turbine/ solar farm and solar canopy tender did not receive any tender returns initially. Therefore, the project has been split into its three parts and Request for Quotes have been advertised in December 2021 with the aim to have information on the suitable sites

for development and the capital and revenue impacts to Cabinet in March/April 2022.

5.49 If information is available earlier on some sites that are suitable for development these will be brought to an earlier meeting of Cabinet.

6. Issues for Consideration

Part 2: Challenges and Consequences

6.7 The Council is faced by a number of key challenges and consequences for its operations, service provision and community leadership/place making role over the period to 2030. These will set out and to some extent determine the opportunity for the success of the Council and city over the period to 2050 and to the end of the century and beyond.

6.8 To provide some more context and need for such a long-term vision and planning, the Humber 2100 project is planning today for what the Humber flood infrastructure needs to be at the end of the century, to deal with the known and expected impacts of climate change. No less a challenge and set of choices faces the Council across all areas that is has direct control and influence over.

6.9 This section is split into those challenges and consequences for the Council as a business, service provider and its community leadership/ place making role.

Achieving Carbon Neutrality by 2030

6.10 The achievement of carbon neutrality for the city by 2030 is not possible without a significant amount of carbon offsetting which could not be accommodated within the boundary of the city. This would require all businesses and organisations and residents in the city to commit to both declaring their carbon emission in 2030 and then identifying funding for offsetting. The Council would not be able to fund this itself and would have significant budget implications. Further, this offsetting investment would need to be undertaken each year thereafter.

6.11 While the Council set a carbon neutral target for the city it is only able to influence other organisations and residents to adopt such a target. Organisations that have set carbon targets have not generally set carbon neutral ones but have set net zero targets which are in line with the Climate Change Act and Paris Agreement methodology. The carbon pathway work has produced a science-based net zero target of 2045 for the city which is achievable with an ambitious approach to net zero activity.

6.12 The Council therefore can only seek to achieve carbon neutrality over those areas for which it has complete control. Therefore, this would only cover the sources of the Councils carbon emission reported on under Scopes 1, 2 and 3 detailed above. Even this will be challenging as it includes consumption emissions which can only be addressed by reducing consumption and net zero procurement.

6.13 The offsetting of carbon emissions excluding consumption emissions would require a carbon offsetting budget of around £235,000 per year, excluding consumption emissions, at today's carbon emissions and offsetting prices, for each year from 2030/31, until net zero had been achieved.

6.14 The offsetting budget would decrease over time as the Councils emission reduced and therefore in 2030 will be significantly less than £235,000. However, the Council needs to develop its own carbon pathway to identify future investment and the expected emission in 2030 that would need offsetting. This would necessitate identifying and securing land for tree planting and habitat creation, in the city or outside of the boundary. This will create additional land use pressure alongside housing and employment land requirements that will need to be identified imminently.

6.15 The sections below are set within the vision for Hull in 2045 as outlined in the Carbon Pathway work in Appendix 3.

Council as a Business

Carbon Reporting

6.16 The first of these challenges is to obtain a clear and accurate understanding of the corporate carbon emissions. Therefore, the Council must include the full suite of Council Scope 3 emissions detailed previously. While emission from housing communal areas and outsourced fleet would be easy to obtain, the Council will need to put a new robust system in place to record council generated waste. This will require additional funding not currently identified.

6.17 That carbon emission from leased assets is brought within the Councils carbon reporting.

6.18 That the Council continues to publish its annual carbon emission publicly and communicate progress to the residents and businesses of Hull.

Environmental Policy and Management System

6.19 The Council currently utilises the Investors in the Environment process as its environmental management system for which it has retained the highest “Green” award for the last seven years. This needs to be maintained as the minimum system to ensure that the work of the Council receives external audit and challenge.

6.20 The Environmental Policy Statement has been amended to reflect the requirements of the 2030 commitment and net zero journey. This would need to be further amended to include the proposed 2040 net zero target for the Council as a business.

6.21 The Council also needs to ensure that through its procurement activity, which also has a place making role discussed below, that its spending addresses its Scope 3 suppliers and consumption emissions to enable the Council to meet its 2030 and net zero target, and the outcomes of the Environmental Policy Statement. This requires a more developed relationship with the supply chain whether that is goods, works or services.

6.22 This will enable the Council to develop stronger commitments around this agenda and align with the direction Central Government’s is taking with its supply chain requirements.

Fuel Purchase Decarbonisation Buildings and Transport

6.23 As has already been noted the Council currently purchases renewable electricity and therefore the Councils and HCaL activities all use renewable electricity.

6.24 However, the Council will need to decide whether this becomes a mandatory requirement for KWL and NPS Humber and retained schools to ensure compliance across all Council companies.

6.25 Following on from this the Council currently does not purchase any “green gas” for building heating due to the significant additional cost compared to the purchase of natural gas. The purchase of green gas can only be seen as a transitional action for a limited time before the move to electric based heating.

6.26 The Council has the option, within the existing contract, to purchase some of its gas from renewable sources. This attracts a 35% premium of 0.75pkWh. This would increase gas costs by circa £26,600 per year for the following sites based on current use:

Guildhall
City Treasury
Warehouse 8
Warehouse 9
Lowgate Centre
Wilson Centre

6.27 The Council is currently switching fleet vehicles to electric, and it is proposed that all vehicles under 3.5 tonnes in weight are moved to electric traction upon the vehicles renewal, whilst ensuring the maximisation of vehicle resource efficiency. Where this is not possible, due to service requirements, most notably within children's services "rapid response" requirements, plugin hybrids are used, and a clear full electric route is agreed for future purchases.

6.28 For fleet vehicles above 3.5 tonne there are, at present, no financially viable solutions whether that is electric of hydrogen. The next replacement cycle for vehicles at this weight will be in 2026/2027 and it is proposed that solutions are brought back for consideration in 2025, with the aim to have all of the fleet fully decarbonised by the end of the 2030/31 financial year

6.29 In the interim, as a transitional arrangement, the Council would be able to shift all the diesel vehicles over to Hydrotreated Vegetable Oil fuel (HVO) without impacting the vehicles operational performance and would deliver a carbon reduction of up to 90% as well as -33% particulates; -30% hydrocarbons; -24% carbon monoxide; -9% NOx (nitrogen oxide. This is supported by the Air Quality Officer and KWL Fleet Manager and aligns with the outcomes of the Air Quality Strategy.

Building Decarbonisation

6.30 The primary focus of decarbonisation of corporate buildings has been focused upon reducing electricity consumption, through lighting replacements and limited renewable energy installations. Some work has been undertaken on heat, but this has primarily been focused upon boiler room and heating pipe insulation. There has not been a focused approach to general thermal fabric improvements or replacing gas with electric heating either as part of major refurbishments or the gas boiler replacement programme.

6.31 While there are still significant opportunities in reducing electricity use from lighting, high energy efficiency goods and voltage optimisation, the focus needs to shift towards heating as this is where most of the Councils carbon emission are generated.

6.32 The renewable energy capital programme, currently underway, will, where possible, "plug" generation into existing buildings and where this is not possible develop "power purchase agreements" to supply self-generated power to itself under commercial arrangements. This will entail the creation of a Council energy company. These options

will be set out in a future report to Cabinet following site assessments. This will aid the switch to electric heating.

6.33 At the present time there are only two viable options to decarbonise heat within buildings; district heating, for some sites within the city centre red line project boundary using net zero fuels; and electric heating through, for example, air or ground source heat pumps.

6.34 District heating for city centre buildings is currently under assessment and a report will be brought to Cabinet in February for the final investment decision. This would deliver a significant carbon reduction. However, this may not deliver a significant cost reduction compared to gas.

6.35 This presents a key challenge for the Council. Current energy projects have been built around a “spend to save” model based upon a relatively short time frame of up to five years. Decarbonisation of the estate will challenge both of these parameters. Savings, where available, will be made over a longer time period and moving to a net zero fuel will mean a shift from gas to electricity, which has a higher cost.

6.36 Improving the thermal efficiency of the Councils estate alongside heating infrastructure for net zero is a fundamental imperative for the switch to electric heating.

6.37 The Buildings and Heat Strategy has indicated that the Government will start to move the carbon tax’s currently on electricity onto the gas bill to reflect the real contribution to climate change.

6.38 While hydrogen has been muted as a possible replacement for natural gas, at this time, it is not viable as the generation capacity is not available and it requires other associated technology, to capture most of the carbon emission from the process. Hydrogen will be used for hard to electrify sectors such as some industrial processes and transport mainly rail, HGV’s and long-distance buses.

6.39 The Council cannot build a heating decarbonisation approach around and uncertain possible future availability of hydrogen.

6.40 Therefore, the Council needs to significantly accelerate and expand the current scale of building fabric energy efficiency retrofit work and heating infrastructure upgrades for net zero heating. At present, the resources both in terms of capacity and finance to develop projects means that the Council is missing out on funding opportunities. There is currently not a stockpile of projects ready to go for the Governments short bidding timescales and delivery rounds. This also means that a clear programme of building decarbonisation projects cannot be set out within the capital programme, to provide greater clarity for the Council, as well as enabling building decarbonisation to

be used as an economic development, business growth and prosperity accelerator.

6.41 As a result, the Council is unable to plan the decarbonisation of heat across the portfolio in a consistent and coordinated way. This has the danger of leading to inefficiencies and increased costs through poor retrofit. A focused approach using PAS 2038[16] for the retrofit of non-domestic buildings for energy efficiency, means that that this work can be undertaken in a sequential way, to deliver net zero buildings. Housing is currently using the similar PAS2035 standard for domestic retrofit to decarbonise the stock.

6.42 All current and proposed building work needs to be reassessed through PAS 2038. The gas boiler replacement programme needs to be reassessed within the context of decarbonisation considering fabric improvements, heating system infrastructure, control systems and electric heating replacement. Schemes and investment now need to be considered on a whole heating system basis and not on individual parts of the whole.

6.43 The current assumption that the Council will replace a gas boiler with another gas boiler needs to change to meet our carbon neutral target and net zero pathway.

6.44 This means projects will require a greater initial investment in assessment and design. This requires a complete rethink of how the Council approaches buildings, including using gas as the counterfactual in business models as this is no longer a heating source compatible with the carbon neutral and net zero targets. This will require additional resources to accelerate our approach, as the capacity is currently not available within NPS Humber.

6.45 Therefore, the challenge is how quickly the Council moves to transition away from gas to electric heating. This will require increased investment in thermal efficiency of buildings as well as replacing gas with electric heating.

6.46 The increased costs for building refurbishment but with long term benefits will require difficult decision to be taken while at the same time dramatically increasing the pace and scale of work. This will require a significant cultural change for the Council.

6.47 Initially progress can be made through assessing the 16 buildings currently electrically heated to make sure they have the right fabric as well as the most appropriate electric heating system. These will be the buildings that the Council can most quickly make net zero ready and meet the 2030 commitment. Further, the one building the Council

[16] https://standardsdevelopment.bsigroup.com/projects/2019-03369#/section

still has still using oil, Western Library, is moved to electric heating as soon as possible and leapfrogs from high carbon to net zero heating.

6.48 As stated earlier the Council has the opportunity, though the net zeroing of its estate, to drive training and skill development within the local economy, using investment to keep the Hull pound in Hull and support local training providers and suppliers/ installers.

6.49 Signalling the carbon neutral and net zero journey through supplier and training provider engagement, enables the market to develop so it has the resources available for when the Council needs them.

6.50 The transition away for gas heating, needs to be seen through the lens of how energy costs are changing as the Council progresses towards net zero. At present the costs of decarbonisation all fall on electricity meaning that the true carbon impact of gas use is masked and provides a false and artificial benchmark and sense of comfort.

6.51 The additional cost of not undertaking carbon neutral and net zero work needs to become a factor in the project development and decision-making process.

Governance, Milestones and Indicators

6.52 The governance, milestone and indicators for carbon neutrality and net zero sites across all aspects of the Councils areas of influence indicated in this section of the report. As this is primarily concerned with how the structures of the Council as a business it has been included within the “Council as a Business” section. However, reference will be made to its wider service provider and community leader impact.

6.53 One of the community leadership and place making tools of the Council are its investments, strategies and plans. At present these are not subject to any carbon, climate risk and adaptation assessment, this will need to change. The current governance framework for these impacts, built around the Implications Matrix, is not fit for purpose to fulfil both the Councils decarbonisation journey and place making role.

6.54 The Council therefore needs to commit to bringing in a system that embeds these elements in the development process of investment, strategy and policy, and not as part of a final checking exercise, which does not allow time for the issue to be considered properly.

6.55 Therefore, alternative governance arrangements need to be developed and implemented to ensure that decision making is climate proofed. Other authorities including Bristol, North Yorkshire, Edinburgh and Suffolk have developed approaches including service

KPI's, service financial accounting and budgets, impact assessment tools and checklists.

6.56 This would embed whole life cycle carbon cost assessment and balanced score card approaches that consider the costs of inaction alongside those of action.

6.57 This will also enable the Economic Strategy opportunities to be maximised and provide resilience to discussions with partners and enable clearer evidencing and transparency in carbon impact decision making.

6.58 Linked to this is the need to consider the wider impacts on the Councils targets through its commercial investment portfolio and pension fund and what influence it can bring to bear through approaches such as divestment and influence. The commitment and outputs of standards such as the Climate-Related Financial Disclosure and Nature-Related Financial Disclosure would be useful in such assessments.

Council as Service Provider

Carbon Emissions

6.59 In terms of Outsourced Scope 3 emissions KWL, HCaL, NPS Humber and retained schools provide significant services for the Council that the Council has significant influence over. The Council, therefore, must ensure that there are robust systems in place within these organisations to record carbon emissions and develop and deliver net zero. The systems should be agreed by the Council and in accordance with the methodology of the Greenhouse Gas Protocol and use the latest BEIS carbon conversion factors.

6.60 Additionally, it is important that these organisations have a clear environmental policy and establish carbon neutral and net zero targets. As a minimum these should be in line with the Councils and that a clear action plan and monitoring system is in place.

Housing

6.61 The Council is responsible for over 26,000 homes in the city and has a wider community leader and place making role across the wider private rented, housing association and owner occupied sectors.

6.62 The Council has a significant and nationally recognised success in regenerating neighbourhoods through housing regeneration schemes that have focused on place making and increasing the thermal efficiency of housing stock across all sectors.

6.63 The cavity wall and external wall insulation programme is breathing new life into homes that had previously been cold and difficult to heat. This work is moving the Council retained stock towards being carbon neutral and net zero ready.

6.64 However, a significant percentage of the Councils stock does not meet net zero requirements and those that have been improved have not been assessed for net zero compliance to understand any future retrofit requirements.

6.65 Additionally, the homes, as with the vast majority of the city are gas boiler heated which will need to change to electric over the period to 2050. This would require an investment for the 23,000 council homes that are not in communal blocks of £184m-230m just in air source heat pumps.

6.66 This is a significant investment and in simple terms would require around 790 installations each year from today through to 2050 or over 2,500 a year to 2030.

6.67 The Council therefore has a key role as a service provider in delivering carbon neutrality and net zero for its own stock as well as influencing and supporting through Government funding, when available, the wider housing sector.

6.68 The Housing Service has drawn staff resources from across the service and the climate change team into a Carbon Action Network to begin to better understand the full implications and what needs to be done to increase understanding. The requirement of all domestic property retrofitted to meet PAS2035 standards will enable the service to have a clear understanding of sequential retrofit that does not create additional cost through poor retrofitting.

6.69 Further, the Council, University, KWL and NPS are working on a demonstration project installing innovative air source heat pump technology with solar and photovoltaic panels to understand the benefit as a net zero solution.

6.70 The project is also investigating new funding models such as Heat as a Service (HaaS) where the Council guarantees a set amount of heat comfort in the home for a monthly fee.

6.71 The work across the service is feeding into discussion with other housing providers in the city around retrofit for net zero learning. This also enables the Council to strengthen its community leader and place making role.

Commissioning

6.72 The Council undertakes a significant amount of service delivery though partnerships, commission services from our public, independent, voluntary and community organisations

6.73 These relationships enable the Council to influence and drive commissioned service delivery towards meeting the carbon neutral and net zero targets.

6.74 Within the area of health services, the NHS has a 2040 net zero target and therefore will be seeking to obtain the same objectives as the Council though commissioning. Therefore, there is the opportunity to work together in commissioning to ensure the transition by service providers.

6.75 A key part of this, which also links to the procurement changes and community leadership and place making role, is to signal clearly to the commissioned services community what our carbon neutral and net zero targets mean for them. The Council will need to define how commissioning criteria will change with each commissioning cycle and what support will be provided to the sector to enable their competitiveness. This is one example where our commissioning for net zero links to our Economic Strategy outcomes.

Climate Risk Assessments and Adaptation

6.76 It is equally important for the Councils key service providers to understand the climate risks identified through the UK Climate Change Risk Assessment, how these will affect their ability to provide services and impact on their key supply chains.

6.77 This will entail focused risk assessments and adaptation plans for these organisations as part of their “contract” with the Council.

Council as Community Leader and Place Maker

Vision from 2050 to today

6.78 The carbon pathways work in Appendix 3 has set out a net zero journey for Hull in 2050. The milestones for the sectors, stated in paragraph 5.16, cover the five year periods to 2030 and then ten year periods to 2050. The meeting of these milestones requires the authority to both channel its investment to enable and support these as well as work with partners and businesses and lobby Government for the resources required through consultation and the devolution agenda.

6.79 The Council therefore needs to undertake a piece of work to take the pathway work and turn this into a clearly articulated vision of Hull in 2050, identify the key investment and intervention requirements, what

role and work the Council will undertake and what role other stakeholders need to undertake to support the transition.

6.80 This brings the Councils community leadership and place making role for net zero to the fore. This then enables the Council to have clear and focused discussion with other stakeholders in the city, who have declared net zero targets, to see how they can contribute to the vision and milestone delivery. It also supports discussions with those who do not have net zero targets as well as engagement around the transition with residents.

6.81 This approach moves the discussion from one around the merits or issues of interventions or projects into the wider role that projects play in what future Hull looks like.

6.82 The use of the Councils “soft power” through visioning, procurement specification and demand changes will enable the Council to develop the local economy. This will increase the resilience of the sectors as well as create long term career opportunities for existing and new entrants to the job market.

6.83 The speed and scale of decarbonisation and adaptation required over the next ten years, and following 19 years to 2050, will see a radical shift in the environment, economy, and society. The Council needs to signal this change with partners, and start to build the resilience, opportunity, and investment through coordinated responses.

6.84 The biggest threat is that when businesses in the city need the skilled and trained workforce, products, and services to enable transition the local economy is not able to respond, and funding and opportunity slip out of the city.

6.85 The carbon pathway work provides part of this future picture, but this needs to be developed further as indicated above so it becomes embedded in our responses, funding and service development and partnership relationships and expectations.

6.86 This is a key challenge for the authority and requires that our community leadership and place making role and approach is central to our decarbonisation response. This however has the potential to create disagreement and hard choices for the authority around those who refuse to accept the need for net zero, the scale and pace of change and do not set out action plans to meet the challenge and feel that business as usual is appropriate.

6.87 Because of the scale and pace of change required by 2050 the city has nine years to prepare for a transition that is already happening.

Consumption Emissions and Procurement

6.88 As already stated, the Councils procurement activity has a significant carbon impact through the purchase of goods and services, including outsourcing service delivery through commissioning. However, it also has a key role to play in transitioning the local economy to net zero and being a key economic development tool for carbon neutrality and net zero.

6.89 Discussions have started with procurement and framework providers, but at present the Council is some way from where it needs to be. To make the progress required it will require that procurers, within services, have a better understanding of the carbon impact of the work they require the procurement team to undertake, as well as the knowledge within the procurement team of carbon impacts so they can support both colleagues and businesses.

6.90 The past year has seen a significant increase in procurement groups, within the public sector, focusing upon how they address carbon reduction within their roles. The NHS net zero target for 2040 is radically transforming their approach to specifications. Likewise, Manchester has moved to a procurement model where Social Value makes up 25% of the score to embed carbon reduction throughout the supply chain. West Yorkshire and North Yorkshire procurement and climate officers have developed toolkits for sustainable procurement from specification through to contract management across built & construction services and food.

6.91 This is an area of the Councils business activity where it can have a significant community leadership and place making impact, through carbon neutral and net zero product specification. Additionally, the Council's purchasing power can be used to elicit carbon reduction within the economy, providing economic development through clear announcements of how specifications will change as the Council moves towards 2030 and 2045 targets. This directly feeds into the Economic Strategy, and enables the Council to develop suppliers and skills, so that the local economy is prepared for known specification changes. Through this the Council will become an "intelligent net zero procurer".

6.92 Through having a clear carbon neutral and net zero journey for procurement the Council can start to drive local economic growth and resilience. The local economy cannot be expected to have the right businesses and staff, with the right skills, for our decarbonised needs if the Council does not have a clear vision of what this is, and how our procurement requirements will change over the period to 2030 and what is required from the market.

6.93 To deliver carbon neutrality by 2030 and deliver the goals of the Economic Strategy the Council needs to clearly articulate its

procurement decision over the next ten years, today. This would support the training and skills elements in the Economic Strategy and increases the resilience of the local economy and "green competitiveness". This also means that the city can deliver green prosperity for our communities.

6.94 A key part of this is to start to gather the intelligence of the services, works and goods supplier community through understanding where they are on their net zero journey. Collecting information through the tender process, not as a scored element initially, whether they have an externally audited environmental management system, climate change/ adaptation strategy and carbon reduction target and plan will help us develop support. This evidence can support funding bids for ourselves and other training and business support providers.

Partnerships

6.95 The Council either leads or is part of several partnerships within the city and on bodies and organisations that impact upon the city. In the carbon reduction and climate ready role, the Council needs to strongly articulate how the partnerships need to change to meet the carbon neutral and net zero goals and become climate ready.

6.96 There is the opportunity to use these relationships to pull out and highlight transition taking place, identify opportunities for learning to be spread and for joint problem solving to take place. This can lead to city carbon reporting by partners, collective action on skills and training development, investment, joint procurement, and sector service provision.

6.97 The challenge is to identify which are the most important of these partnerships and how as a Council we influence the role, direction, and delivery to meet carbon neutral, net zero and climate adaptation goals.

6.98 One new example where the carbon neutral and net zero challenge for the city has been used to galvanise the business community around the 2030 strategic challenges is the "Vision got a Better Hull" partnership. This has been developed jointly by the Council, Reckitt, Humber Bondholders, Hull University, EY and the CBI.

6.99 The partnership is currently engaging with 30 major businesses in the city to identify the common carbon neutral and net zero challenges in each theme and then work collaboratively on deliverable solutions that will be measured and reported annually.

6.100 The Councils role in partnerships as the carbon neutral and net zero community leader and place maker is critical for the delivery of the Vision and prosperity in the city.

Residents and Communities

6.101 The transition required for carbon neutrality and net zero will fundamentally change the lives of residents and communities. While many of the challenges that the city is currently addressing will remain, how the Council uses the transition to make lives better for residents and communities should be at the heart of our approaches. A fair transition must be integral to our net zero and climate adaptation solutions.

6.102 Residents and communities will turn to the Council more and more as we transition, for information and guidance on the choices they have to make around home heating, transport, skills, training and education.

6.103 However, many of the changes that will need to be delivered around transport modal shift, for example, will face opposition from both vested interests but also those without choice.

6.104 Our response needs to focus on opportunity and be careful of the danger of creating a “culture of blame” for carbon choices made. Many of the choices we make as individuals are out of our control, but where the individual and communities have or are enabled to take control low carbon choices can be made for example; community litter picks, food banks, walking buses and cycle buses, Hull Food Partnership, park and garden friends groups, community tree planting, community energy all provide examples of local solutions.

6.105 The outcomes of the national Climate Assembly[17] which brough a representative sample of the UK population together to look at the choices that need to be made, has shown that people are more ambitious and have a greater understanding of the issues once informed.

6.106 The challenge is how the Council signals to residents and communities when action is taken, as a Council and city, that it is a carbon neutral and net zero transition, so awareness of action and solutions becomes evident. The vision is the key part of this new story the Council needs to tell.

6.107 The Council needs to be robust in our defence of the actions taken, that deliver the carbon neutral and net zero solution, and use challenge to improve the argument and understand what else needs to be consider as part of the solutions.

[17] https://www.climateassembly.uk/report/

6.108 The fair transition becomes key, not only for those that are currently employed in carbon industry's that will see their jobs disappear or change significantly, but also those that are currently experiencing poverty or are marginalised.

6.109 The Council through its actions as a service provider must consider the impacts on fuel poverty for example and ensure that those in vulnerable situations be that housing or employment are given a future that increases their prosperity.

6.110 The vision needs to articulate how all will benefit including those currently marginalised and through the Councils community leadership role it creates the opportunities so that the net zero Hull in 2045 addresses the issues of a carbon Hull in 2021.

7. Options and Risk Assessment

7.7 The paper sets out the key challenges and consequences of the carbon neutral target and net zero pathway to aid discussions on the options and risk.

7.8 The options and risks will be further developed following discussions at the Cabinet/ Corporate Strategy Team Away Day on the 13th September.

7.9 Following this a formal report on actions and options will be produced for Cabinet.

8. Consultation

8.7 Initial discussion on the Carbon Pathways and action plan has been undertaken with a wide range of stakeholders in the city from the public, business and sectors and civil society. In addition, discussions have started to take place with the procurement team on how carbon neutrality can be enhanced within the procurement process and revision of social value requirements.

8.8 Business are being engaged on the decarbonisation journey and the strategy themes within the business sector through the Vision got a Better Hull partnership.

8.9 Consultation on the Pathways has been held with the Assistant Directors and detailed discussion have and continue to be held with the Regeneration, Major Projects, Property and Asset, Streetscene and Housing Services

9. Comments of the Monitoring Officer (Director of Legal Services and Partnerships)

9.7 The Council has to take into account that the Climate Change Act 2008 (2050 Target Amendment) Order 2019 amended the Climate Change Act 2008 so as to place a duty upon the Secretary of State to ensure that net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline. The Council also unanimously adopted a policy position committing to undertake a wide range of measures so as to ensure that the city of Hull contributes to the legal outcome. This report progresses the development of a framework for activity toward delivering that objective. (IA)

10. Comments of the Section 151 Officer (Director of Finance and Transformation)

10.7 The Director of Finance and Transformation notes the pathway and delivery plan as set out in this report with the objective that the city as a whole will achieve net zero by 2045.

10.8 As set out in Appendices 1A & 1B there are some significant capital investment requirements over the medium term impacting upon the General Fund which will need to be incorporated in the Medium-Term Financial Plan (the main one of which will impact on fleet costs until replaced with electric vehicles) and the Capital Programme. In addition to this there are likely to be significant implications on the Council's Housing stock which have not yet been fully included within the HRA Business Plan. (GS)

11. Comments of Assistant Director of HR & OD and compliance with the Equality Duty

11.7 Whilst there are no specific staffing or equality duty implications arising for the Council from these recommendations, these may arise from the key challenges ahead and an equality impact analysis is needed for any key decisions. (KM)

12. Comments of Overview and Scrutiny

12.7 Comments will not be sought for the Cabinet Away Day

12.8 The Forward Plan Entry relating to this decision will be considered by the Overview and Scrutiny Management Committee at its meeting of Tuesday, 4 January 2021. The Committee will decide if the decision should be subject to further scrutiny, and if so which Scrutiny Commission will carry out that work. (Ref. Sc6621 (FH))

13. Comments of the Portfolio Holder Environmental Services: Climate Change Lead

13.1 I fully support the recommendations made in the report. It is vital the Council is seen to be giving a lead locally with regard to challenging the impact of climate change and taking positive and practical action to reduce our carbon emissions and energy use. Setting out our carbon neutral target and the steps we are committed to take to ensure we meet that target is essential. I am proud that the Council is leading the way in responding to the climate emergency, and hope this report highlights a raft of good practice recommendations that could be adopted by other organisations both locally and nationally.

14. Comments of the Portfolio Holder Finance and Legal

14.7 I fully agree with the aims set out in this report, however under 5.10 there needs to be further explanation of the difference between carbon neutral and carbon neutrality, also a further explanation of timescales set out in 1.1 2045 as opposed to 2030 in 5.10.

Mark Jones Corporate Director Regeneration

Contact Officer: Martin Budd Climate Change Manager
Telephone No.: 01482 613098

Officer Interests: None

Background Documents: -

Hull 2030 Carbon Neutral Strategy
Hull Economic Strategy
Hull Carbon Pathways Stakeholder Discussion papers

Implications Matrix

This section must be completed, and you must ensure that you have fully considered all potential implications

This matrix provides a simple check list for the things you need to have considered within your report

If there are no implications, please state

I have informed and sought advice from HR, Legal, Finance, Overview and Scrutiny and the Climate Change Advisor and any other key stakeholders i.e. Portfolio Holder, relevant Ward Members etc prior to submitting this report for official comments	Yes
I have considered whether this report requests a decision that is outside the Budget and Policy Framework approved by Council	Yes
Value for money considerations have been accounted for within the report	Yes
The report is approved by the relevant Assistant Director	Yes
I have included any procurement/commercial issues/implications within the report	Yes
I have considered the potential media interest in this report and liaised with the Media Team to ensure that they are briefed to respond to media interest.	Yes
I have included any equalities and diversity implications within the report and where necessary I have completed an Equalities Impact Assessment and the outcomes are included within the report	Yes
Any Health and Safety implications are included within the report	Yes
Any human rights implications are included within the report	Yes
I have included any community safety implications and paid regard to Section 17 of the Crime and Disorder Act within the report	Yes
I have liaised with the Climate Change Advisor and any environmental and climate change issues/sustainability implications are included within the report	Yes

I have included information about how this report contributes to the City Plan/ Area priorities within the report	Yes
I have considered the impact on air quality, carried out an appropriate assessment and included any resulting actions or opportunities necessary to improve air quality in the report.	Yes
I have considered the impact on Children Looked After and Care Leavers and any resulting actions/implications have been included within the report.	Yes

Appendix 1a

Capital Implications

See separate documents attached

Appendix 1b

Revenue Implications

See separate document attached

Appendix 2

Glossary[18]

Greenhouse Gases
There are ten key greenhouse gases that are causing the climate to warm.

- Water vapor (H_2O)
- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Ozone (O_3)
- Chlorofluorocarbons (CFCs and HCFCs)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (CF_4, C_2F_6, etc.), SF_6, and NF_3

These gases are naturally occurring, but the actions of humans are causing an increase in their concentrations in the atmosphere. This is causing the planet to warm or heat up.

CO^2e
This means carbon dioxide equivalent. This is used as a abbreviation usually used when stating an amount carbon dioxide reduction by an organisation or person. All of the greenhouse gasses above are converted into a carbon dioxide equivalent ratio.

Global Warming/ Heating
This is used to refer to the impact of climate change and its impact on the climate. While global warming has been widely used for decades the extent of warming that has and is expected to continue to take place has led some commentators to start to refer to it's global heating as this more accurately describes the process that is taking place.

[18] Some of these descriptions have been taken from https://netzeroclimate.org/what-is-net-zero/

Carbon Neutral

An organisation or individuals net contribution to global CO2 emissions is zero. Any CO2 emissions attributable to their activities are fully compensated by CO2 reductions or removals (offsetting/carbon sequestration) exclusively claimed by the actor — irrespective of the time period or the relative magnitude of emissions and removals involved.

This is not a valid end-state target, as it only refers to carbon, but a possible intermediate step. This is the Councils current target.

Net Zero or Net Zero Emissions

Put simply this means that the amount of greenhouse gases going into the atmosphere are balanced by removal out of the atmosphere. The UK target is a net zero one as is the United Nations enshrined in the Paris Agreement. The 'net' in net zero is important because it will be very difficult to reduce all emissions to zero on the timescale needed. As well as deep and widespread cuts in emissions, we will need to scale up removals. In order for net zero to be effective, it must be permanent, that is, that any greenhouse gas removals do not leak into the atmosphere over time, for example through the destruction of forests or the improper storage of removed carbon dioxide. This is the only approach that will stop global warming if it is delivered in line with the science based target so we avoid feedback loops on emissions.

Under both a carbon neutral and net zero target the carbon to be sequestrated needs to take place every year in perpetuity for all residual emissions.

Offsetting

Reducing GHG emissions (including through avoided emissions), or increasing GHG removals through activities external to an actor, in order to compensate for GHG emissions, such that an actor's net contribution to global emissions is reduced. Offsetting is typically arranged through a marketplace for carbon credits or other exchange mechanism.

Offsetting claims are only valid under a rigorous set of conditions, including that the reductions/removals involved are additional, not over-estimated, and exclusively claimed. Further, offsetting can only be used to claim net zero status to the extent it is "like for like" with any residual emissions.

Carbon Sequestration

This is linked to carbon neutral, net zero and offsetting. Carbon sequestration involves a series of solutions that "store" carbon emitted to help organisations/ individuals reach net zero or carbon neutrality. This involved natural solutions such as tree planting/ hedge laying/ saltmarsh creation and other habitats as well as technical solutions such as carbon capture and storage (CCUS) and various direct air capture technologies. The rigour of a sequestration solution is key as detailed in the offsetting section.

Greenwashing
This phrase is used to describe claims made by organisations that they are meeting climate targets/ standards or are selling a sustainable product of service when on close inspection this is plainly not true. This is becoming an increasing problem for customers and organisations and so checking the validity is important.
The Competition and Markets Authority[19] has published a guide for consumers to stop them getting “greenwashed”.

Feedback Loops
As global heating increases form the increased release of greenhouse gases this has other unintended consequences such as the melting of permafrost which releases stored methane which is 20x more powerful at warming the climate than carbon dioxide and the increased melting of glaciers and reduction in snow fall. These changes in the climate start to feed of each other and a tipping point is reached at which point certain impacts start to feed each other within add to global heating.

Science-Based / Paris-Aligned Targets
Target is aligned with what the latest climate science deems necessary to meet the goals of the Paris Agreement — limiting global warming to well-below 2°C above preindustrial levels and pursuing efforts to limit warming to 1.5°C, with no or low overshoot.

Appendix 3

Inter-Governmental Panel on Climate Change: Climate Impact Europe Factsheet

See separate document attached

Appendix 4

Carbon Pathway Road Map

See separate document attached

[19] https://www.gov.uk/government/publications/green-claims-code-for-shoppers

Appendix 5

Activity undertaken that supports the 2030 Carbon Neutral Declaration by the Council

Energy Spend to Save projects:

LED Lighting Schemes Completed:
Streetlight replacement
Costello Sports Centre
Waudby Leisure Centre
George Street Multi-Storey Car Park
Stockholm Rd Depot (external and workshop)

PV Installed:
Pryme Street car park
Western Library

LED Lighting Schemes in Progress:
Hull & East Riding Museum
East Park
Ferensway Interchange
Ings Library / CSC
Ings Children's Centre
Parks Children's Centre
33 Witham
Treasury
History Centre
Pryme Street Car Park
Guildhall
City Hall
Central Library
Streetlife Museum

Voltage Optimisation Completed:
Hull History Centre

Window Draught Proofing Programmed:
Guildhall
City hall
Central Library

Plant Room Insulation Programmed:
Streetlife Museum
City Hall

Solar PV Programmed:
Stockholm Road Depot

Hull Business Energy Efficiency Scheme

To date has achieved:

Businesses enquired to the Scheme	125
Businesses registered with the Scheme	62
No of grants awarded	14
Expected CO^2 saving (tonnes)	265
Grant Awarded	£ 67,127
Private Match -	£108,493

The Scheme is forecast to outstrip its carbon reduction targets as there has been significant demand for the Scheme even during Covid. However, the size of the small and medium enterprises sector in Hull is significant and therefore the scheme, if funding was available, could expand significantly.

Limetree Children's Facility

The Council is currently developing a replacement of the existing facility with a new purpose built one that will be net zero ready providing significant levels of insulation, energy generation and an air source heat pump for space heating and hot water.

Arctic Corsair

The new maritime Museum linked to the Artic Corsair is being design to passive house standards which will be the first museum in the UK built to this standard. This building once compete will have operational energy costs of close to zero.

IT Server Migration

The migration of the Councils IT servers to Microsoft cloud is delivering cloud based storage and services powered by 70% renewable energy with a target for this to be 100% for all Microsoft cloud services by 2025. This will reduce the Scope 2 emission for the Council and while these will be a Scope 3 emission the cloud services provided will have a greater energy efficiency for operation and cooling.

District Heating

The Council has appointed a team of consultants to complete the Detailed Project Development stage and a report to Cabinet on a final investment decision will be submitted in March 2022. If approved construction is expected to commence in 2023 with the first buildings connected in 2024.

Carbon Pathway
The Council appointed the Carbon Trust to undertake this key piece of work has been completed and set out the key actions and steps to carbon neutrality by 2030 and a net zero by 2045.

Climate Change Team
The climate change team has been expanded to four members of staff.

Electric Vehicles and Charging Infrastructure
The Council now has 32 electric vehicles within its fleet out of a total of just over 200 under 3.5 tonnes.
The Council has installed 14 charge points for the public in the city centre and installed 35 charge points for its fleet. The next phase of installation is being developed for completion before the end of the year with further installations in 2022/23.

Net Zero House Innovation project
The Council is working with the University on an innovation project to demonstrate the net zero benefits of installing air source heat pumps, solar thermal and solar photovoltaic systems on the demonstration house in Bexhill Close.

The Open Spaces Strategy
This is currently being reviewed to enable the new Strategy to be carbon neutral compliant and integrate developments in Nature Based Solutions, to managing open spaces and provide a key response to the carbon sequestration theme of the Strategy. This also enables the new Strategy to address climate adaptation challenges and opportunities around flood alleviation and heatwaves.

Disseminating Hulls Carbon Neutral Work
The Council has also taken the opportunity during lockdown to promote the work of the Council and its Strategy. This has included speaking at various webinars, conferences and meetings including, for example, the Waterline Summit, Spark Conference (hydrogen), Greater Manchester health providers meeting and zero carbon webinars run by Anthesis, LGA and Nordic Heat. These have all helped to further cement Hull's approach within the wider public and private sectors.

Additional Activity

- Production of the Carbon Neutral 2030 strategy
- £18m capital programme for renewable energy generation projects
- Creation of a Climate Change Team

- Council and city consumption emission report completed by Anthesis

- Jabob's appointed to undertake electric vehicle strategic assessment for Hull and East Riding

- Participation in a regional programme to explore the options for introducing fiscal incentives to homeowners and businesses of changing behaviours

- Completion of market research through the People's Panel to identify residents' concerns and support for addressing climate change

- Joint working continues with East Riding of Yorkshire Council, Yorkshire Water, the Environment Agency and other public sector partners to address the flooding aspects of climate change through the 'Living with Water' programme.

- Established a working group with Natural England, Environment Agency, University, and Humber LEP to look at natural system solutions for carbon sequestration.

- The Council actively supported the city centre Greenpower Car race drawing in schools and young people from across the region to highlight environmentally friendly and engineering skills for the future

- The Council worked closely with the Humber LEP to deliver the Northern Powerhouse Energy Conference in November 2019, which attracted over 700 public and private sector individuals into the Hull to support the development of plans and support business growth in the clean energy sector

- The Council has developed Net Zero and Climate Ready Charter and Partnership with Reckitt, Humber Bondholders and University to coordinate business activity towards net zero.

- The Council sits on the Yorkshire and Humber Climate Commission and is an active member of the Yorkshire and Humber Chief Executives Zero Carbon Working Group

- Made a significant contribution to the Energy Chapter of the Local Industrial Strategy and Humber Energy Strategy

- Housing Carbon Action Network is increasing knowledge and application of net zero solutions within the Councils own stock and supporting funding applications.

- Working with the One Public Estate group to bring learning and best practice to decarbonisation across the public estate in the city and opportunities for joint learning and delivery

- Retained for the 9th year Green Accreditation for the Councils environmental management system Investors in the Environment.

- The Council leads on the sustainability and net zero areas of the devolution discussions with Government.

- Development of new cycle lanes in the city as part of the Covid response and plans to expand this provision significantly over the next few years to support active and sustainable travel choices.