



URN: 19-095

Subject: Carbon Reduction – the Pathway to Net Zero

Report to: Executive Leadership Team – Wednesday 19th May 2021
Environment Committee – Wednesday 9th June 2021

Report by: Kate Watts, Strategic Director

At an Environment Committee meeting on the 10th September 2019 Members received a report in response to a Council motion on lowering the Council’s organisational carbon footprint and agreed to commission specialist external support to map and measure the Council’s carbon footprint and develop a carbon reduction plan.

This report provides Members with a progress update in relation to the Borough Council’s activities, making recommendations for Members to agree our approach on Environmental Sustainability matters, with an overall ambition of achieving Net Zero by 2050.

Members are therefore asked to consider the recommended next steps:

- To confirm ongoing support for the finalisation of the carbon footprint mapping work for the Council, to be completed by September 2021, alongside the development of an action plan to reduce the Council’s carbon footprint.
- To recommend to Full Council the appointment of a Great Yarmouth Borough Council elected Member to sit on the Norfolk Elected Members Climate Change Partnership Board
- To allocate £30,000 from the special projects reserve to develop an Environmental Sustainability Strategy and action plans to detail our pathway to Net Zero.

1. INTRODUCTION

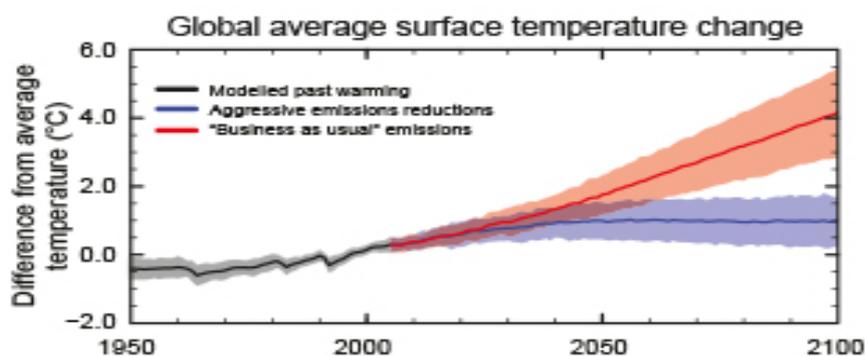
1.1 At an Environment Committee meeting on the 10th September 2019 Members received a report in response to a Council motion on lowering the Council’s organisational carbon footprint and agreed to commission specialist external support to map and measure the Council’s carbon footprint and develop a carbon reduction plan.

1.2 This report provides Members with a progress update in relation to the Borough Council’s activities, making recommendations for Members to agree our approach on Environmental Sustainability matters, with an overall ambition of achieving Net Zero by 2050.

2. CARBON REDUCTION CONTEXT

- 2.1 There is scientific evidence that the earth's climate is changing as a direct result of human activity. Average global temperatures reached 1 degree above pre-industrial (1850) levels for the first time in 2015. Temperatures have most rapidly risen since 2000, with the UN's World Meteorological Office (WMO) identifying 20 of the hottest years on record over the last 22 years¹.
- 2.2 Simply put, greenhouse gases in the atmosphere, including water vapour, carbon dioxide, methane and nitrous oxide, absorb heat energy and emit it in all directions (including downwards); keeping the earth's surface and lower atmosphere warm. Adding more greenhouse gases to the atmosphere enhances the effect, making the Earth's surface and lower atmosphere even warmer².
- 2.3 Much modelling has been developed to try and predict the changing climate going forwards. Whilst each model shows variations in these predictions, the common consensus is that without human intervention global warming will continue at pace.

Figure 1: Shows such a model produced by the Royal Society of Science Fellowships



- 2.4 In 2015, at the 21st session of the Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, national governments committed to limit global increases to well below 2 degree Celsius above pre-industrial levels, and to pursue efforts to limit increase to 1.5 degrees. To achieve this, parties to the agreement agreed to reach Net Zero global emissions of greenhouse gases in the second half of this century.
- 2.5 In June 2019, the UK Parliament legislated for 'Net Zero' greenhouse gas emissions by 2050 and the Government has indicated it plans to launch a Net Zero Strategy before the UK hosts the 26th UN Climate Change Conference of the Parties (COP26) conference in November 2021.

¹ <https://phys.org/news/2019-02-years-hottest.html>

² <https://royalsociety.org/topics-policy/projects/climate-change-evidence-causes/basics-of-climate-change/>

- 2.6 Government introduced the 'Net Zero' target through an amendment to the Climate Change Act (2008), which originally set a target of at least an 80% reduction in net greenhouse gas emissions in the UK relative to 1990 levels. In December 2020, the Prime Minister announced a new target to reduce the UK's emissions by at least 68% by 2030, compared to 1990 levels to put the UK on a pathway to Net Zero³.
- 2.7 Whilst not as yet legislated for, the Climate Change Committee (CCC), which advises the UK and devolved administrations on meeting their emissions reductions targets and preparing for climate change, has recommended that the UK sets a Sixth Carbon Budget (i.e. the legal limit for UK emissions of greenhouse gases over the years 2033-37) with the aim of requiring a reduction in UK emissions of 78% by 2035 relative to 1990, a 63% reduction from 2019, in line with Net Zero. In doing so this will be a world-leading commitment, placing the UK decisively on the path to Net Zero by 2050 at the latest, with a trajectory that is consistent with the Paris Agreement⁴.
- 2.8 To support this Net Zero ambition the CCC suggests that significant policy strengthening will be required and that plans must translate into action. Its advice and policy reports outline how Government must organise for the major delivery challenge of Net Zero. This delivery challenge extends to Local Authorities which have a key role in supporting people, communities and businesses.
- 2.9 A recent House of Commons Public Accounts Committee (March 2021) reviewed the evidence for 'Achieving Net Zero'. It also noted that Local Authorities have significant scope to influence emissions in their area, both by leading decarbonisation of sectors (such as housing and transport) and by influencing local businesses and residents to take climate action themselves.
- 2.10 As a result, Councils are expected to be at the forefront of the national response to climate change and have been putting plans into action to help achieve Net-Zero carbon emissions by 2050 or sooner. From waste collection and transport, to electric vehicles and parks, councils are taking huge steps to cut carbon emissions and protect our environment⁵.

3. REGIONAL & NORFOLK PRESPECTIVE

- 3.1 New Anglia Local Enterprise Partnership (NALEP) has been the Government's Green Economy Pathfinder Local Enterprise Partnership since 2011. This role means the NALEP is leading the way in demonstrating how 'clean growth' can be achieved through the development and promotion of environmental sustainability within day to day business practice. As such its priorities are focussed on⁶:

- Maximising funding and investment that benefits the green economy.

³ UNFCC, 2015, Paris Agreement, Article 2, p2

⁴ <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035>

⁵ <https://www.local.gov.uk/about/news/councils-spearheading-national-climate-change-effort>

⁶ <https://newanglia.co.uk/wp-content/uploads/2020/03/New-Anglia-Strategic-Economic-Plan.pdf>

- Championing action that links valuing, investing and growing natural capital with economic growth. Driving down costs by highlighting and enabling action on Business Resource Efficiency.
- Enabling innovative, entrepreneurial and radical solutions to business opportunities utilising the knowledge at our world class education and research centres.
- Developing the skills and supply chain to support the green economy.
- Creating 1,000 hectare of Wild Spaces.

3.2 NALEP is delivering against these priorities through its Growth Deal by allocating £10m to broadband infrastructure enabling businesses and individuals to work effectively from home and in rural locations; reducing travel time and associated emissions. £8.85m has been provided in Great Yarmouth for sustainable transport measures to support walking, cycling and public transport use and reduce car use. NALEP has also contributed significantly to projects which mitigate the damage from climate change to our local economy for example:

- Bacton to Walcott Coastal Management Project.
- Over £26m to flood defences projects of which £8.2m has been spent on Great Yarmouth flood defences, protecting homes and businesses.

3.3 Looking ahead, New Anglia LEP's COVID-19 Economic Recovery Restart Plan focuses economic recovery with Net Zero in mind; incorporating investment in low-carbon technologies that offer significant economic benefits from job opportunities to spending, while at the same time building a clean and resilient Net Zero economy.

3.4 Co-operation within the county is also strong in this field of work; the Norfolk Climate Change Partnership, established in January 2020, comprises of Norfolk's public sector including Great Yarmouth Borough Council, Norfolk County Council, NALEP and the Environment Agency. The Partnership has a common shared interest in supporting Norfolk's communities, public, voluntary & community organisations, businesses and residents to reduce carbon emissions, realise the economic benefits of reducing utilities consumption and adapt to the future impacts of climate change. Its aim is for Norfolk to become '*an exemplar in tackling climate change and protecting and enhancing its natural environment.*'

3.5 Within the Partnership, the Borough Council is not alone in addressing climate change through carbon reduction measures both within the community and as an organisation. Examples include Norfolk County Council that has a programme to replace and upgrade 13,500 residential streetlights to LED; Norwich City Council which has recently partnered with the global energy company ENGIE to launch 'Roar Power', a renewable energy provider offering a fully renewable tariff with 100% renewable energy or gas⁷; and the Borough of King's Lynn and West Norfolk that has completed its own carbon footprint assessment and developed an action plan to reduce their carbon footprint⁸.

⁷http://www.norwich.gov.uk/news/article/313/city_council_tops_norfolk_chart_for_performance_on_climate_change

⁸https://www.west-norfolk.gov.uk/info/20095/energy_and_climate_change/806/climate_change_work_plan

- 3.6 To further support this Partnership, it has been agreed that a Member board will be established to provide political leadership for this group. Members from the Environment Committee are therefore asked to nominate a representative to sit on the Norfolk Elected Members Climate Change Partnership Board.

4 GREAT YARMOUTH - CONTEXTUAL BACKGROUND

- 4.1 Within the Council's Corporate Plan one of our four main priorities focuses on '**A Quality and Sustainable Environment**', defining the vision as:

'... communities in which local people live will be clean and attractive. The Council recognises the value of our physical and built environment and the importance of our coastline, our relationship to the Broads National Park and particular; challenges associated with future climate change. We recognise the world is changing and we must meet the challenge of global climate change by playing a positive local role leading by example. Great Yarmouth will be a place where sustainability is at the heart of our work and where people take pride in the clean and attractive environments found here. We will lead by example with local

- 4.2 In the past decade the UK has emerged as a world leader in offshore wind energy and Great Yarmouth is at the centre of this renewables growth in East of England with Enterprise Zones, £12 million pounds worth of investment going into its Port infrastructure and the creation of an Operations and Maintenance (O&M) Campus for the energy sector. There is therefore a clear opportunity to further capitalise on this as part of the climate change agenda.
- 4.3 In contrast, being a coastal borough, Great Yarmouth is at a heightened risk in terms of the impacts of climate change; specifically, from increasing sea levels, which in turn are predicted to have a severe impact on UK coasts by 2080. The total rise in sea levels off the coast of the UK may exceed one metre. The frequency of storm events is expected to increase and, in combination with the rise in sea level, is expected to lead to an increase in flooding. Erosion is also expected to increase, partly due to the rise in sea levels with the East of England coastline predicted to be most severely impacted on⁹. This is one of many reasons why the Borough Council is prioritising this agenda.
- 4.4 Around 41,200 Norfolk households were estimated to be in fuel poverty in 2013 - that's 11% of the county's households. In some locations in Great Yarmouth figures reach a quarter of households. Around 9,000 Norfolk homes have no central heating (2.4% of households), with Great Yarmouth (3.7%), worse than average. Fuel poverty is an important consideration in terms of climate change, new technologies to address the climate change can cost more money, impacting further on those households already experiencing fuel poverty.
- 4.5 Often the homes these residents live in are not energy efficient, for example lack of insulation causes those residents to burn more fuel and or use more energy to try and keep

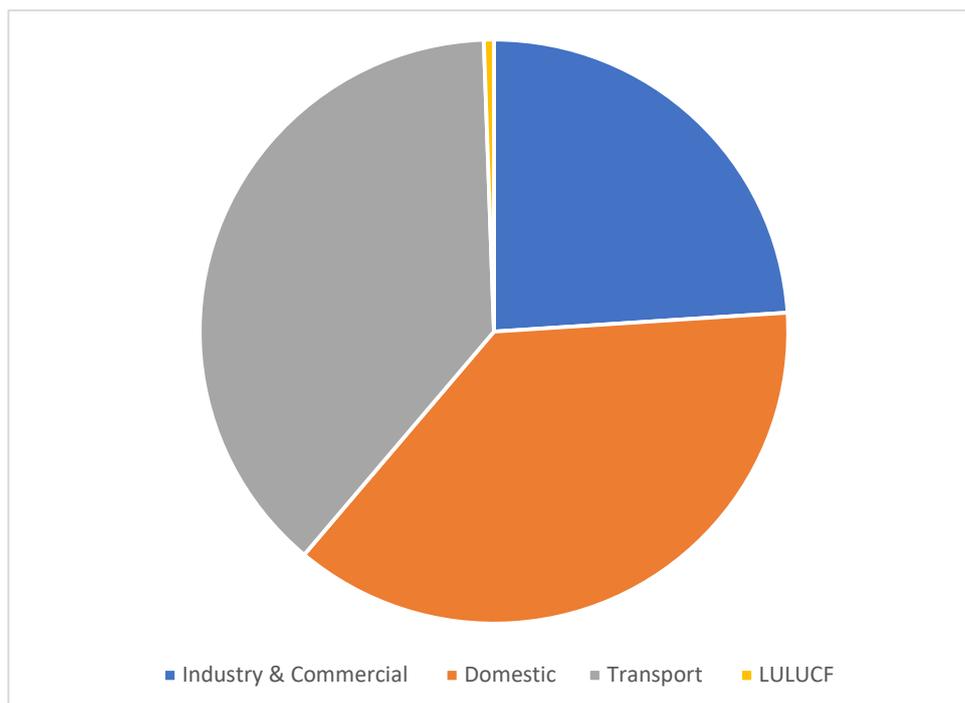
⁹ Impacts of Climate Change of Disadvantaged UK Coastal Communities

their homes warm. This has both a cost and carbon implication¹⁰. Looking forwards there is a requirement that all homes have an EPC rating of C or higher and that all social housing is zero carbon by 2050, so as a result no gas boilers will be fitted after 2025.

5. GREAT YARMOUTH - CARBON DATA

- 5.1 The Department of Business, Energy and Industrial Strategy (BEIS) publishes Local Authority carbon dioxide (CO₂) emissions data each year. As of August 2020, the 2018 data set is the most recent. Unfortunately, due to the pandemic this data has yet to be updated.
- 5.2 CO₂ emissions are categorised into 4 main categories: Industry and Commercial, Domestic, Transport and Land Use, Land Use Change and Forestry (LULUCF). The pie chart below shows the percentage make-up of Great Yarmouth's CO₂ emissions for the borough. This indicates that transport is the greatest source of CO₂ emissions, closely followed by domestic emissions.

Figure 2: A pie chart showing Great Yarmouth's percentage of CO₂ emissions for 2018 in relation to BEIS categories¹¹



¹⁰ <https://www.communityactionnorfolk.org.uk/sites/content/tackling-fuel-poverty-and-what-available-help-you>

¹¹ <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018>

5.3 This data can be further broken down: in the Table below.

Figure 3: Great Yarmouth Borough's CO₂ Output (2018 data)¹²

Sector Name	CO ₂ (kt)
Industry & Commercial Electricity	44
Industry & Commercial Gas	25
Large Industrial Installations	0
Industrial & Commercial Other Fuels	16
Agricultural Combustion	4
Domestic Electricity	41
Domestic Gas	70
Domestic Other Fuels	23
Road Transport (A roads)	65
Road Transport (Motorways)	0
Road Transport (Minor roads)	52
Diesel Railways	0
Transport Other	22
LULUCF Net Emissions	2
Total for all sectors	365

5.4 Great Yarmouth Borough currently produces less CO₂ emissions than the other council's across Norfolk, with a mainly downward trend since 2005. However, it should be noted that direct comparisons with the other Norfolk local authorities is difficult as each authority has different populations, area and industry mixes. The table below shows overall CO₂ emissions for Norfolk's local authorities over the last 5 years:

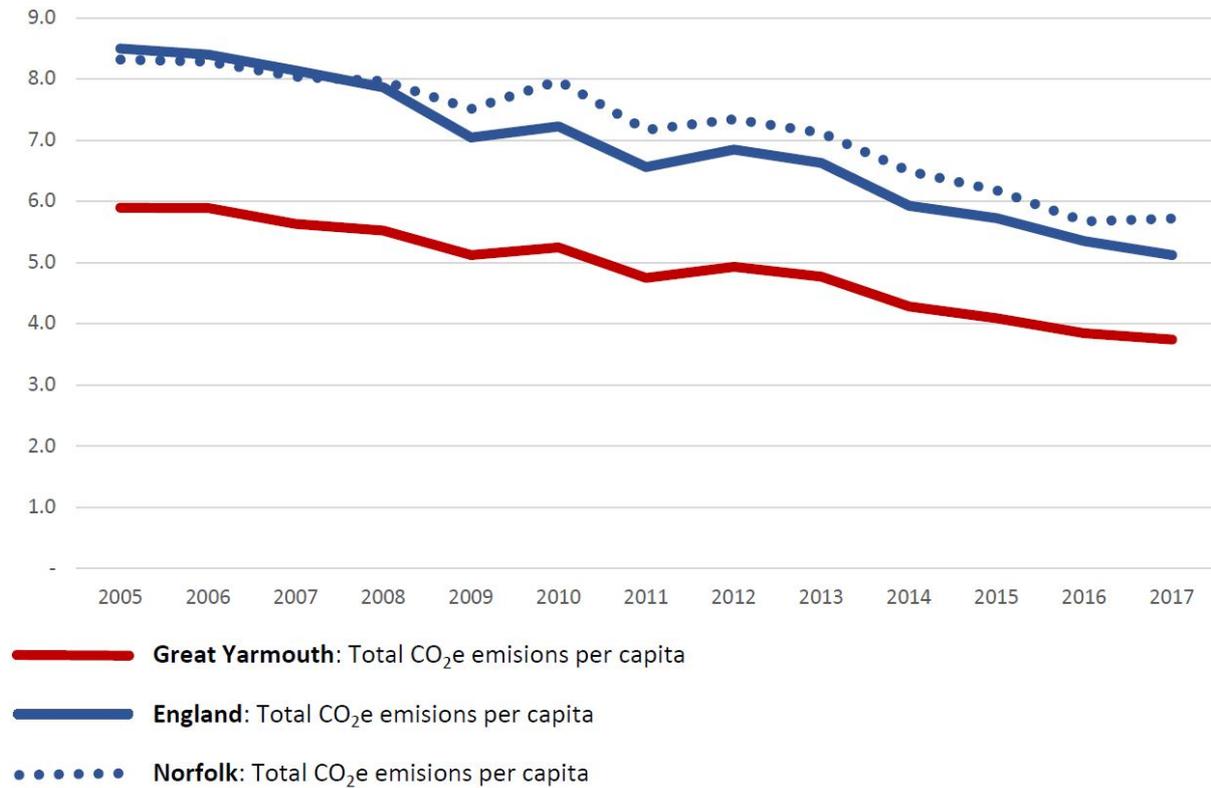
Figure 4: Table showing comparison CO₂ emissions across Norfolk Local Authorities

Local Authority	CO ₂ (kt) 2014	CO ₂ (kt) 2015	CO ₂ (kt) 2016	CO ₂ (kt) 2017	CO ₂ (kt) 2018
Kings Lynn & West Norfolk	1,432	1,475	1,210	1,405	1,360
South Norfolk	867	869	843	838	836
Broadland	812	783	758	708	748
Breckland	782	734	706	700	695
North Norfolk	671	646	617	589	587
Norwich	537	594	612	527	497
Great Yarmouth BC	435	406	379	372	365
Total	5,536	5,507	5,125	5,139	5,088

¹² <https://naei.beis.gov.uk/laco2app/>

5.5 In addition to the table above showing local area comparisons, the graph below shows per capita carbon emissions between 2005-2017 for Great Yarmouth in comparison with Norfolk and England.

Figure 5: Graph showing per capita carbon emissions between 2005-2017 for Great Yarmouth, Norfolk and England¹³



5.6 Whilst the Borough is the lowest contributor to CO₂ emissions across Norfolk, there is still much scope to undertake carbon reduction activities, be it internally as an organisation, or working externally with our residents and businesses.

5.7 The borough has an automatic air quality monitoring station in South Denes. Data from 2018 showed that air quality standards for the borough are being met. The key pollutants of concern locally continue to be nitrogen oxides and particulates primarily from traffic and industrial emissions. Air quality levels are considerably better than more urban areas in other parts of the UK, and work in areas such as the third river crossing to reduce congestion, will only help to reduce these levels further¹⁴.

¹³ BEIS (June 2019) UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2017

¹⁴ <https://www.great-yarmouth.gov.uk/CHttpHandler.ashx?id=988&p=0>

6. GREAT YARMOUTH BOROUGH COUNCIL PROGRESS TO DATE

6.1 The Carbon Trust was commissioned in March 2020 to measure the Council’s own carbon footprint and develop a carbon reduction plan. The timing was such however that the commencement of the work coincided with the onset of the COVID-19; meaning data collection and therefore assessment was not possible. Whilst much of the activity detailed within the 2019 report consequently was put on hold, several preparatory measures have been possible in the interim and are detailed below:

Organisationally	Community & Business
WASTE	
<p>Office recycling systems are in place to deal with: paper, card, glass, metal cans, plastic, toner cartridges, crisp packets.</p> <p>Food waste caddies were introduced in 2019 with the unwanted organic material being composted using vermiculture on-site (worm bins). The substrate is used as plant feed.</p> <p>Single use disposable cups were replaced in February 2020 with reusable cups for all staff and members and crockery made available for visitor meetings around the Town Hall building.</p>	<p>Working with Norfolk CC and partners in The Netherlands, Belgium and France, the Borough Council is part of Project FACET which stands for ‘Facilitating the Adoption of Circular Entrepreneurship in the Tourism and Leisure Sector’.</p> <p>FACET looks to support and encourage food-related hospitality, leisure and tourism businesses in the borough to adopt a ‘circular economy’ business model. This is based on the principle of designing-out waste, keeping products and materials in use and regenerating natural systems.</p> <p>FACET includes the adoption of methods to motivate positive visitor behaviour change through making recycling on-the-go bins more appealing and accessible. Specifically incorporating gamification, reverse vending and sensor-driven ‘Smart’ bins.</p> <p>The FACET project aims to achieve a 15% reduction in the amount of single use packaging used by the participating businesses, a 15% reduction of business waste generated and a 50% reduction in the number of on-street waste collections in two years.</p>
TRANSPORT & TRAVEL	
<p>The Council is working with Active Norfolk and Liftshare to understand and assess of how staff travel to work; identifying ways to increase more sustainable travel options. This assessment is currently on hold given the</p>	<p>An E-Scooter pilot was launched as a sustainable mode of public transport in March 2021.</p> <p>Local Cycling and Walking Infrastructure Plans (LCWIP) are currently being</p>

<p>majority of staff that have been working from home. In saying that, this in itself has resulted in a positive impact across the UK in terms of a reduction of transport-generated CO₂ emissions.</p> <p>The Council has bicycle storage and shower facilities available to encourage staff to cycle to work.</p> <p>The Council also provides access to a shared pool car for work journey's and in non-pandemic times, car-sharing is actively encouraged to reduce road miles.</p>	<p>developed which will better guide future funding to increase sustainable travel options for our residents.</p> <p>The Council introduced rapid charging electric vehicle points in 2019. In the first year the electric vehicle points saved the equivalent of two tonnes of CO₂ emissions.</p> <p>In 2019 Abellio Greater Anglia invested new rolling stock which include energy saving and environmental features such as aerodynamic design, regenerative braking which puts energy back into the supply network rather than wasting it through heat, and lower particulate pollution.</p>
OPEN SPACES	
<p>Work is underway to map Council owned open spaces to then strategically consider these. As such opportunities to increase walkways etc will be explored as well as tree planting and nature gardens.</p> <p>The Council undertakes a rolling LED lighting replacement programme in relation to its footway lighting. LED's are energy efficient and have helped to reduce the Council's energy consumption in this area.</p>	<p>Through several funding streams including The Town Deal, green recovery fund and DEFRA's Urban Tree Challenge Fund, the Council is aiming to populate the urban areas of Great Yarmouth with up to 500 trees planted over two years during winter 21/22 and winter 22/23.</p> <p>The planting will take place aligning with some existing schemes such as the town centre landscaping and to replant South Quay where the trees were removed.</p>
HOUSING/CAPITAL PROJECTS	
<p>The Council's property development company, Equinox Enterprises Limited, plans to incorporate renewable and low carbon home energy solutions in its future development schemes.</p> <p>As part of the Middlegate Estate Masterplanning, work is now underway to look at ways to deliver zero carbon as part of the regeneration scheme.</p> <p>The Winter Gardens will be a focus for exploring and learning about low carbon technologies, through the integration into the designs of a range of innovative sustainable, low-carbon measures developed in partnership with the Institute for Sustainability Leadership,</p>	<p>The Council is part of the Norfolk Warm Homes programme which delivers heating and home insulation grants to the County's residents including home owners, landlords and tenants in Great Yarmouth. Residents on a low income or in receipt of income support benefits are eligible under this scheme. The scheme's particular focus is homes with a low energy rating of Bands E, F or G.</p> <p>The Council's local plan aims to address and where possible mitigate the effects of climate change. It does this by ensuring new developments are located in accessible locations. The plan also enables adaptation to coastal erosion, minimises flood risk to new developments, supports the green infrastructure network and</p>

<p>University of Cambridge, the project will minimise whole-life costs – and will achieve NET ZERO CARBON for the building in use – and in sympathy with its heritage and conservation.</p>	<p>encourages renewable energy, water efficiency and provision of electric car charging points.</p>
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7. NEXT STEPS

7.1 Climate change and environmental sustainability is at the forefront of international, national, regional and local agendas. As a borough Council we have already committed to this, and as demonstrated within this paper that despite the Covid -19 pandemic, work in this area has continued.

7.2 However we are now at the stage where it would be useful to draw all the activity that is happening together under one Environmental Sustainability Strategy, so that we can articulate the Council’s vision and develop action plans to accelerate our progress and guide future investment. Such a strategy likely includes several subject areas such as:

- Pathways to net zero
- Waste minimisation
- Energy Efficiency
- Open spaces & tree strategy
- Sustainable communities
- Air/land quality
- Sustainable procurement

7.3 To develop such a strategy additional resource will be required. Members of this committee are therefore asked to allocate £25,000 from the special projects reserve to be used in the development of this strategy and associated actions plans.

8. FINANCIAL IMPLICATIONS

8.1 Members are asked to approve funding of £30,000 from the Council’s special projects reserve to support the development of an Environmental Sustainability Strategy and associated action plans.

8.2 As the Council finalises its Carbon Reduction Plan and develops its Environmental Sustainability Strategy there will be financial matters which will need to be considered, outline financial costings for proposed activities as part of the Carbon Reduction Plan and the action plan for the Environmental Sustainability Strategy will then be presented to Members.

9. LEGAL IMPLICATIONS

9.1 In June 2019 the Government legislated the 2050 Net Zero target, following a recommendation from the Committee on Climate Change by amending the Climate Change Act 2008.

- 9.2 Whilst local authorities find themselves in an ambiguous position as to their role in tackling climate change and where they fit into a coherent national picture as they do not have a specific duty to deliver Net Zero nor to report emissions reductions, they clearly have a leading role under this agenda, and in many cases are already delivering emissions reductions, or taking actions which affect how Net Zero might be achieved by other public bodies and businesses¹⁵.
- 9.3 It is also likely that as central government refocuses on this agenda post pandemic there will be future legislative matters which will need to be considered.

10. RECOMMENDATIONS

- 10.1 This report provides Members a progress update in relation to the Borough Council's activities, making recommendations for Members to agree our approach on Environmental Sustainability matters, with an overall ambition of achieving Net Zero by 2050.
- 10.2 Members are therefore asked to consider the recommended next steps:
- To confirm ongoing support for the finalisation of the carbon footprint mapping work for the Council, to be completed by September 2021, alongside the development of an action plan to reduce the Council's carbon footprint
 - To recommend to Full Council the appointment of a Great Yarmouth Borough Council elected Member to sit on the Norfolk Elected Members Climate Change Partnership Board
 - To allocate £30,000 from the special projects reserve to develop an Environmental Sustainability Strategy and action plans to detail our pathway to Net Zero

¹⁵ <https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf>