Cheshire East Council

Working for a brighter future together

Environment and Communities Committee

Date of Meeting:	2nd February 2023
Report Title:	Carbon Neutral Progress Update
Report of:	Jayne Traverse, Executive Director of Place
Report Reference No:	EC/21/22-23
Ward(s) Affected:	All

1. Purpose of Report

1.1. The Council has committed to being a carbon neutral council by 2025 and a carbon neutral borough by 2045. This report provides an update to committee of the progress the Council has made. A further paper is also to be presented at the Economy and Growth Committee which will cover land-based matters relating to that committee.

2. Executive Summary

2.1. In May 2019 Cheshire East Council committed to being a carbon neutral council by 2025 and to influence carbon reduction across the borough. In May 2020 we adopted our Carbon Action Plan which set out how we will achieve this. Following this the Council adopted the UK100 pledge committing to the borough of Cheshire East being carbon neutral by 2045.

2.2. Carbon Neutral Council by 2025

2.3. The Council is on track to deliver carbon neutrality by 2025, however, there remain risks of time to deliver our second solar insetting scheme together with ongoing risks due to external factors of increased gas usage from covid ventilation measures and a lack of availability of affordable electric vehicles.

2.4. Our action plan set a carbon reduction target of 46% and an insetting[1] target of 60% by 2025 from 2019 baseline levels. To date the Council has achieved carbon reduction of 11% and delivered 30% of its insetting target. However,

[1] Offsetting Carbon that cannot be reduced by natural sequestration such as tree planting and renewable energy generation focused within the borough

there are a series of projects in development that are forecasting total carbon reduction of 37% and total insetting to net the residual carbon.

2.5. Wider Borough Progress

2.6. Following a full Council Notice of Motion in January 2022 the Environment and Communities Committee adopted the UK100 target for the borough to be carbon neutral by 2045.

2.7. In response to this the Council has undertaken detailed study of the borough's current carbon footprint and sourced case studies of best practice delivered by comparable authorities to influence the reduction of carbon across different sector areas. (Appendix 1)

2.8. The report details the scale of the challenge to reduce carbon across the borough which would not be deliverable by any one organisation such as the Council. A high degree of partnership approach utilising existing and new regional and local sector groups will be required. The report concludes even with a high ambition pathway only 75% of reduction would be possible by 2045 without further insetting measures.

2.9. The paper seeks to authorise the production of prioritised proposals for the 2045 target based on best practice within the report. Proposals to influence carbon reduction by 2045 are not currently costed as part of the MTFS and once developed would be brought forward as part of a costed action plan for further approval.

3. Recommendations

3.1. That the Committee:

3.1.1. Note the progress made towards the Council's target to be carbon neutral for its own emissions by 2025.

3.1.2. Note the contents of the borough wide baseline report 2045 (Appendix 1) and authorises the Head of Environmental Services to develop proposals with regional and local partners for priority action areas to begin to influence a reduction in borough wide carbon emissions towards the 2045 target.

4. Reasons for Recommendations

4.1. The above recommendations will continue to progress the Council's ambition to be carbon neutral for its own operations by 2025 and to influence carbon reduction across the wider borough.

4.2. The 2045 target for borough wide decarbonisation represents a 22 year time frame during which many changes are expected in both technology and national policy. It is therefore considered preferable to consider initial priority actions and collaboration with partners to provide initial reductions and put in place necessary structures on which to build.

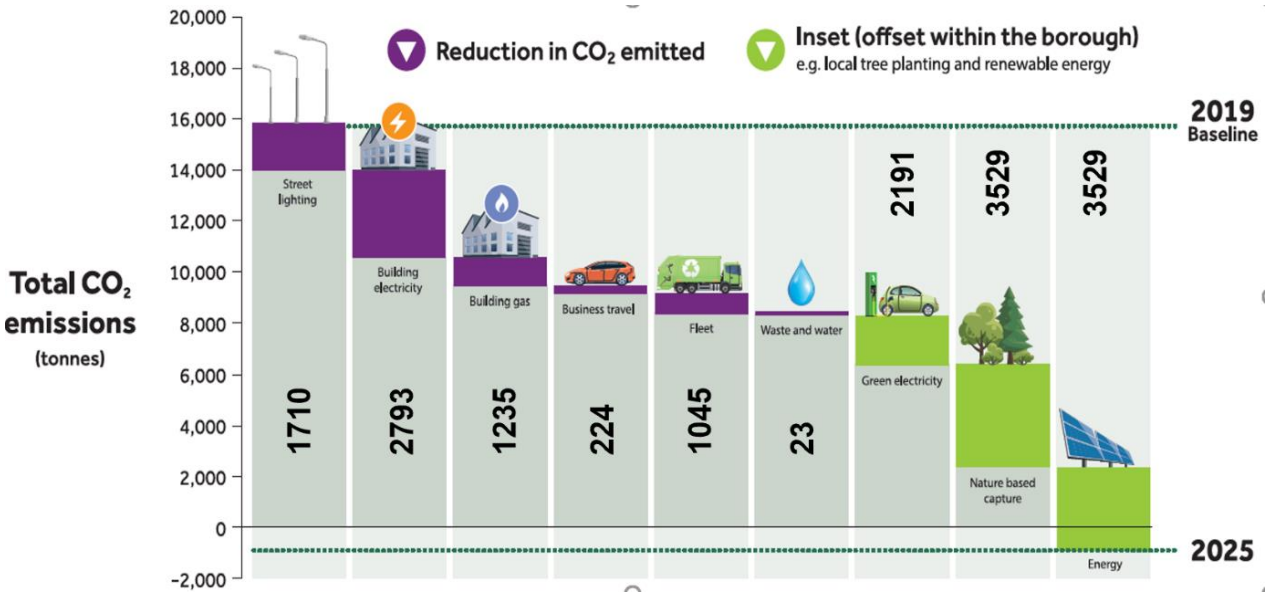
5. Other Options Considered

5.1. There is an option to do nothing however this would severely curtail the Council's ability to meet its declared target of being carbon neutral for its own operations by 2025 and for the borough by 2045.

5.2. The Council has the option to purchase registered carbon offsets. This is not recommended as the offsets would be outside of the borough and lose the co-benefits of borough wide carbon reduction.

6. Background

6.1. The carbon neutral action plan set carbon budgets against different areas of the Council's operations, illustrated below. These were intended to outline the scale of the reduction required against each area and would be reviewed annually and as and when new opportunities or technologies emerge. Where targets were not being met it is intended that other areas may be able to compensate through additional action.

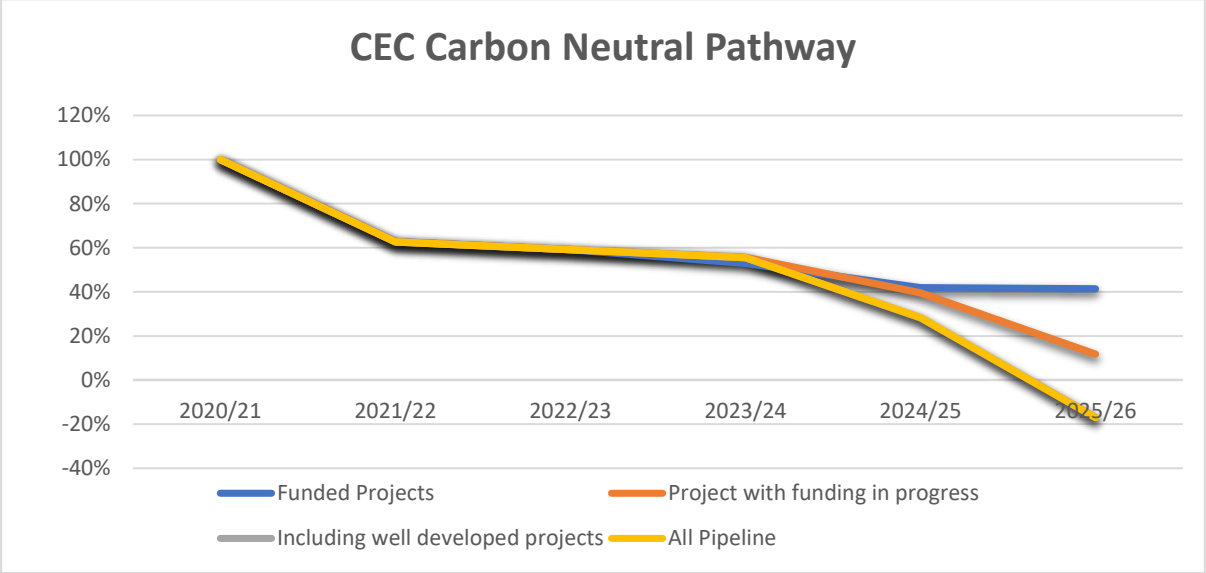


6.2. Carbon Neutral Progress Update

6.3. An assessment of progress against each area is summarised below. We have separated the forecasted impact of projects and polices which have been put in place and funded to date, and those projects which are at a high level of development and could be delivered by 2025, in some cases subject to funding through future business cases. There are also a number of projects which are at concept stage, and so there is a higher level of risk that these will not deliver the required carbon savings.

	Tonnes of CO_2	%
2019 Baseline CO_2	**15,447**	**100%**
2025 Reduction Target	**7,030**	**46%**
Current carbon reduction Achieved	1,640	11%
Estimated Carbon reduction	2,304	15%
Estimated carbon reduction (including developed)	4,080	26%
Estimated carbon reduction (including concepts)	4,181	27%
2025 Insetting Target	**9,268**	**60%**
Current Carbon Reduction Achieved	4,673*	30%*
Estimated Insetting	2,325	15%
Estimated Insetting (including developed)	9,533	62%
Estimated Insetting (including concepts)	9,533	62%

* This figure includes the purchase of green electricity, the impact of which will reduce as the grid continues to decarbonise.



6.4. There is sufficient scope of projects to give confidence that Cheshire East Council will achieve its ambition to be carbon neutral by 2025. However, as previously, some of these projects remain in the development phase and are therefore subject to costs inflation and potential delays.

6.5. In the following sections we have taken the elements of the waterfall diagram shown above and broken them down to show where progress has been made and where there are gaps on which we need to focus.

6.6. It should be noted the authority uses green electricity backed by the Renewable Energy Guarantees of Origin (REGO) scheme. In line with established good practice, however, it is still necessary to first look to reduce electricity usage and to decarbonise though schemes such as solar before the remainder is then offset by the green electricity tariff.

6.7. Street Lighting

2019 Baseline (tCO2)	**2556**	**100%**
2025 Target (tCO2)	**846**	**33%**
Cumulative Change (tCO2)	-1710	-67%
Current reduction achieved	-1328	-48%
Estimated reduction – in progress (tCO2)	-2001	-78%
To be developed (tCO2)	-0	-0%

6.8. The carbon emitted from our streetlighting has reduced radically over the last few years through the installation of LED lanterns and more modern control equipment across most of the asset.

6.9. The replacement of over 4,000 illuminated signs and bollards to LED are being progressed to completion this year, with new sign lanterns produced from recycled materials and a tree planted for every one installed.

6.10. The reduction has also benefited from reductions in the carbon intensity of national grid which supplies our streetlighting.

6.11. Building Electricity

2019 Baseline (tCO2)	**3911**	**100%**
2025 Target (tCO2)	**1118**	**29%**
Cumulative Change (tCO2)	-2793	-71%
Current reduction achieved	-1118	-29%
Estimated reduction – in progress (tCO2)	-2443	-62%
To be developed (tCO2)	350	9

6.12. Cheshire East Council has been successful in securing funding from the Public Sector Decarbonisation Scheme and has submitted applications for further funding to provide additional carbon reduction measures.

6.13. A programme of energy efficiency measures including LED light replacements across twelve buildings have provided a reduction in electricity usage.

6.14. The installation of building mounted solar arrays on Council buildings is providing self-generated green electricity, reducing the amount of grid electricity the Council is required to purchase. Seventeen solar PV installations have been completed to date, providing approximately 1GWh per year, and a further two are in plan.

6.15. Building Gas

2019 Baseline (tCO2)	**4410**	**100%**
2025 Target (tCO2)	**3175**	**72%**
Cumulative Change (tCO2)	-1235	-28%
Current reduction achieved	849	19%
Estimated reduction in progress (tCO2)	-44	-1%
To be developed (tCO2)	150	3%

6.16. The decarbonisation of our gas usage is one of the most challenging and expensive areas of our carbon reduction and requires investment in building fabric improvements and grid upgrades to fully decarbonise the heating of our buildings.

6.17. Following the Covid-19 pandemic there has been increased requirements for the circulation of fresh air and measures such as the opening of windows have become more common place.

6.18. This has resulted in an increase in the heating requirements for buildings, in particular leisure centres, and has therefore resulted in an increase in the gas consumed by Cheshire East Council.

6.19. Following the successful applications for Public Sector Decarbonisation Funding the Council has put in place a programme of replacing gas boilers with air source heat pumps where this is possible. As these replacements are completed we anticipate a reduction in gas use. To date three air source heat pump installations have been completed, a further twelve pumps are expected to be installed over the next 12 months.

6.20. Business Travel

2019 Baseline (tCO2)	**884**	**100%**
2025 Target (tCO2)	**660**	**75%**
Cumulative Change (tCO2)	-224	-25%
Current reduction achieved	-489	-55%
Estimated reduction – in progress (tCO2)	-567	-64%
To be developed (tCO2)	0	

6.21. The Council's business travel decreased substantially during the pandemic, however our mileage has started to increase again, so activity will need to be sustained to at least achieve the original 25% reduction target.

6.22. This will be achieved through the implementation of our Agile Working policy, allowing flexibility and encouraging the use of digital technology to reduce the need to travel. We have also introduced electric pool cars through a car club, to support those staff who are unable to work digitally, with the expectation to further roll-out the car club to high mileage services.

6.23. We are also reviewing travel policies within the Council and considering ways in which business travel can be further decarbonised without impacting on service levels. It is proposed to introduce an enhanced green travel plan to assist in business mileage reduction.

6.24. **Fleet**

2019 Baseline (tCO2)	**3543**	**100%**
2025 Target (tCO2)	**2498**	**70%**
Cumulative Change (tCO2)	-1045	-30%
Current reduction achieved	511	14%
Estimated reduction – in progress (tCO2)	333	9%
Estimated reduction – developed projects (tCO2)	-396	-11%
To be developed (tCO2)	2102	59%

6.25. The decarbonisation of the Council's operational fleet has started but our carbon footprint has increased since the pre-pandemic baseline across most services, especially increased use of our waste collection vehicles to cope with increased volumes of waste.

6.26. Our ability to decarbonise the fleet has been impacted by a lack of suitable alternatives for our requirements, and delays in availability of electric vehicles.

6.27. There are currently no viable low carbon alternatives for almost half of our fleet emissions. This is especially true for our refuse collection vehicles, which due to the range needed are unlikely to be electrified. To overcome this we are trialling the use of hydrogen for a couple of these vehicles, the only credible alternative in development.

6.28. To achieve the 30% reduction target we will need to electrify the vast majority of the non-refuse fleet. We have seen a number of vehicles electrified, including 9 of our highways fleet, and individual services are starting to order electric vehicles. We expect that the availability and utility of vehicles will increase over the next 24 months, so to facilitate adoption we are installing additional charging points at Council offices, depots and at other key locations across the borough.

6.29. Given the delays in this programme there is a risk to delivery of the 30% target, which will require additional activity elsewhere in the programme to mitigate this risk. This mitigation is proposed to speed up the electrification of the Councils transit type flatbed vehicles and small vans used for collection of recycling and waste from street cleansing and by parks and grounds maintenance teams and to install the associated charging infrastructure required.

6.30. **Waste and Water**

2019 Baseline (tCO2)	**144**	**100%**
2025 Target (tCO2)	**121**	**84%**
Cumulative Change (tCO2)	-23	-16%
Current reduction achieved	95	66%
Estimated reduction in progress (tCO2)	89	62%
Estimated reduction – developed projects (tCO2)	83	58%
To be developed (tCO2)	106	74%

6.31. The Council continues to promote water efficiency and recycling by our staff and services.

6.32. There has been a significant decrease in water usage since the baseline of over 75%, due to agile working.

6.33. The carbon from our waste has remained relatively static since the baseline, but the headline totals are higher due to changes in the way it is measured through number of collections rather than weight.

6.34. **Green Electricity**

2025 Target (tCO2)	**2191**	**100%**
Estimated reduction – developed projects (tCO2)	Due to the purchase of green electricity this figure will equal the residual electricity use once all other measures are considered.	100%
To be developed (tCO2)	0	0

6.35. All council buildings are now being supplied with green electricity backed by the Renewable Energy Guarantees of Origin (REGO) scheme which offsets a significant proportion of the emissions meaning all assets at CEC under our financial control consume 100% green electricity. This includes Leisure centres and Streetlighting. Since 2019, Schools under CEC energy framework benefit also from 100% green electricity.

6.36. It is recognised that the purchase of green electricity, while important, should not negate the need to reduce consumption.

6.37. Nature Based Solutions

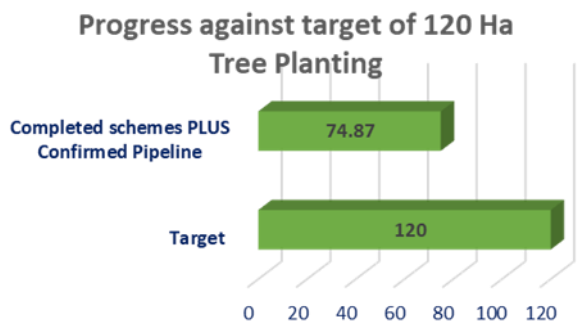
2025 Target (tCO2)	3529	100%
Estimated offset – Completed and funded projects (tCO2)	2007	57%
Estimated offset – developed projects (tCO2)	4214	119%
To be developed (tCO2)	0	0

Tree Planting

6.37.1. The nature-based sequestration element of the programme has been focussed on identifying suitable council-owned land for large-scale tree planting schemes. Whilst the Council has continued to plant trees in schools and community spaces, these sites are limited and will not be sufficient to meet the scale of planting required to achieve the required offset.

6.37.2. In March 2022 the Council's first large-scale planting scheme was completed at Leighton Grange, Crewe, adjacent to the site of the planned solar array. In partnership with the Mersey Forest and Green Task Force, a charity supporting military veterans, seven hectares of trees were planted, fully funded by DEFRA's Trees for Climate fund and with additional funds allocated for future maintenance of the trees. This is a model we would like to replicate for similar large-scale planting schemes going forward, subject to suitable land being made available.

6.37.3. The tree planting programme will remain on track to achieve the target of planting 120 hectares of trees by 2025 if the delivery of the schemes planned for the 2022/23 season, and future large-scale plantings are achieved. This is dependent on the availability of council owned land for planting and the capacity of the Council and its partners to deliver the schemes on site.



Season	Hectares
2019/20	3.5
2020/21	4.47
2021/22	13.03
2022/23 (Pipeline)	54.47
Total to date:	**74.87**

Future Tree Planting

6.37.4. The Council is supporting Cheshire Wildlife Trust to create a 6.5-hectare woodland at their site in Holmes Chapel, Saltersford Wood. Cheshire Wildlife Trust will create and maintain the woodland and in return for the financial contribution, the Council can claim the carbon sequestration towards its the carbon neutral target. It is expected that the woodland creation will be completed by April 2023.

6.37.5. In 2021, the Council undertook a high-level land use assessment through consultants RSK Environment Ltd. This identified sites of interest for nature-based solutions by considering what biodiversity net-gain and carbon savings and other benefits that could be achieved from the implementation of natural sequestration measures including public amenity, aesthetic, and flood mitigation. The majority of these sites are agricultural holdings and subject to surveys and assessments would provide sufficient land for the Council to achieve its natural offsetting targets.

6.37.6. Design and delivery support will be provided by Mersey Forest and costs are likely to be covered by Trees for Climate grant funding.

Peat restoration

6.37.7. In 2020 the Council undertook to restore a 1-hectare area of peat bog on agricultural holdings at Pastures Wood. The bog was drying out and starting to oxidise but by removing the birch scrub and raising the water levels the

bog is beginning to regenerate, evident by the sphagnum moss regrowth that is already occurring.

6.37.8. The Council commissioned a report to evaluate the peatland and mosses within the borough and are in the process of identifying peat and moss land on Cheshire East owned sites that can be similarly restored or managed to prevent degeneration.



6.38. Challenges

6.38.1. The availability of sufficient council-owned land for tree planting has been the biggest challenge to date. The land identified as potentially suitable for planting is largely within the Council's farm estate. Removing this land from the agricultural holdings would enable the Council to achieve its carbon neutral ambition but would result in lost future income for the Council. The alternative to using council-owned land is to purchase land for offset or to purchase offset credits outside the borough.

6.38.2. The capacity of our delivery partners to continue to support delivery of the programme to the extent they have to date is a risk as their staff resources are limited. The project management and co-ordination resource required to deliver the tree planting programme will increase as the large-scale planting programme expands to meet the target of 2025. With conflicting demands on Council staff resources there is a risk that programme delivery will slip and that the tree planting programme will not be completed by 2025.

6.39. Energy Insetting

2025 Target (tCO2)	**3529**	**100%**
Estimated offset – Completed and funded projects (tCO2)	936	27%
Estimated offset – developed projects (tCO2)	5944	168%
To be developed (tCO2)	0	0

6.40. The solar array previously approved at Leighton Grange is now in development and is expected to be fully realised within the next year, with over 7,600 solar panels providing renewable energy to our composting plant.

6.41. Feasibilities are currently being finalised for additional solar capacity in the borough, but realising these carbon reductions are subject to connection and planning risks.

6.42. We are also progressing a heat network for the Garden Village at Handforth, which could provide low carbon heat through ground source heat pumps to the proposed new development.

6.43. The Council assessed its own land for the possibility of commercial wind generation, but specialists concluded that the wind speed at all sites are lower than most commercial developers would seek for a project to be viable. It was recommended that none of the sites should be considered for wind turbines.

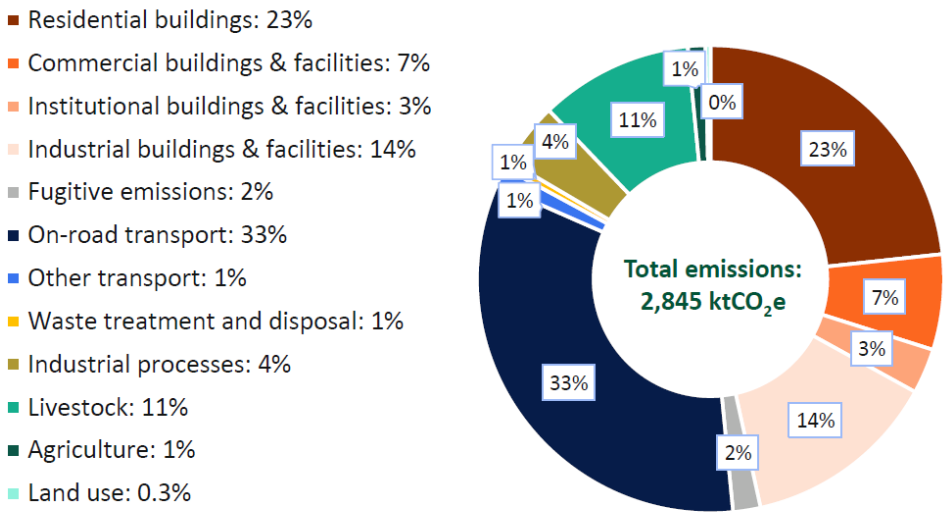
Wider Borough Influence

6.44. In October 2021 Cheshire East Council passed a motion to make the UK100 pledge which included a commitment for the Council to recognise a target of 2045 for borough wide carbon neutrality. This commitment was re-affirmed at committee in January 2022 when a decision was taken for Cheshire East Council to join the UK100 Network.

6.45. To enable the Council to better quantify the scale of the challenge the Council commissioned Anthesis Consulting Group to produce a carbon baseline for the borough. Officer insights along with case studies showing carbon reduction activities undertaken in borough's with comparable emissions have been used to establish potential pathways.

6.46. The report provided by Anthesis is appended to this paper.

6.47. The carbon baselining assesses the carbon emitted across Cheshire East at 2,845ktCO2e (kilotonnes carbon dioxide equivalent).



6.48. Using current emissions reduction scenarios, using their Scatter tool, Anthesis project that it will be a challenge for Cheshire East to meet the 2045 target even following a high ambition pathway.

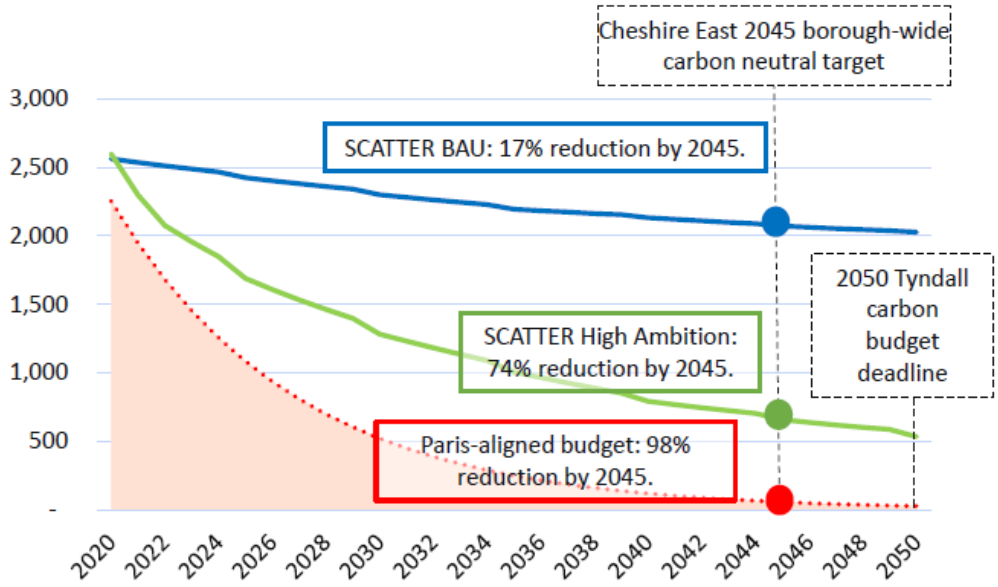


Figure 3.1: Future emissions pathway for Cheshire East (2020–2050).

6.49. It remains important for Cheshire East to work towards the maximum possible reduction in emissions within the borough and would require going beyond the Scatter tool high ambition pathway and maximising our influence within the borough.

6.50. Other local bodies are working to reduce the carbon footprint of the local area, including the Local Enterprise partnership, the Sustainable and Inclusive Growth Commission and the Cheshire East Sustainability Network. Additionally there are many groups within the borough set up to reduce carbon, encourage sustainability and protect nature.

6.51. The next steps will be to draw out a number of priority actions that can be pursued by Cheshire East Council and local partners and bodies. It is not proposed to carry out a full action plan for the 23 years as national policy and technology will both change during this time.

7. Consultation and Engagement

7.1. There has been regular consultation with Council members through the Carbon Members Advisory Panel and officers through the Carbon Board.

7.2. Consultation will proceed on each individual reduction measure as part of the project development process.

8. Implications

8.1. Legal

8.1.1. The recommendations are supportable. This report does not cite any projects that at this juncture call for review by Legal. Whilst the Council works to evolve its approach to decarbonisation and develop projects which seek to deliver on the plans aims; Legal stands ready to consider implications arising from such projects and to advise accordingly.

8.2. Finance

8.2.1. The Council's current Medium Term Financial Strategy (MTFS) includes a revenue budget to support the delivery of the Carbon Neutral programme. The MTFS also includes several carbon neutral related capital schemes.

8.2.2. Mitigation proposals to speed up fleet electrification are incuded in the current budget setting cycle through a capital project funded by existing revenue fleet budgets. Proposals are for the electrification of the Council's transit type flatbed vehicles and small vans used for collection of recycling and waste from street cleansing and by parks and grounds maintenance teams and to install the associated charging infrastructure required.

8.2.3. The current MTFS has no allocation relating to the 2045 target for borough wide carbon neutrality. Requests for funding associated with this target will be presented when a more detailed action plan is brought to committee for decision.

8.3. Policy

8.3.1. The recommendations within this report are reflective of the priorities within the council's Corporate Plan 2021-25 and the vision for an open, fairer, greener Cheshire East. The plan includes the goal to be a carbon neutral Council by 2025.

8.4. Equality

8.4.1. An equality impact assessment was undertaken for the Environment Strategy, of which the Carbon Neutral Action Plan forms a key element and concluded there are no adverse impacts on any of the protected characteristics. All residents are expected to benefit from taking action on climate change. Further assessment will be needed to assess individual measures proposed in the action plan on a case-by-case basis.

8.5. Human Resources

8.5.1. Policy changes may have HR implications and will be consulted on before they are implemented.

8.6. Risk Management

8.6.1. A programme risk register has been developed and is actively maintained. Individual projects also maintain their own risk register and individual risks are managed or mitigated.

8.7. Rural Communities

8.7.1. Changes in land use to support the delivery of the carbon neutral goal may have an impact on rural communities. The land assessment has considered the competing priorities for different land parcels and given a rounded view.

8.7.2. It is recognised that rural communities have different needs with regards to issues such as transport and may require particular solutions.

8.8. Children and Young People/Cared for Children

8.8.1. As part of the wider communications strategy plans are in place to engage with children and young people through various channels.

8.9. Public Health

8.9.1. It is expected that reductions in carbon emissions and associated pollutants will have a positive impact on public health.

8.10. Climate Change

8.10.1. The matters within this report are concerned with reducing the council's carbon footprint.

Access to Information	
Contact Officer:	Ralph Kemp, Head of Environmental Services Ralph.kemp@cheshireeast.gov.uk
Appendices:	Appendix 1 – Cheshire East Borough Wide Carbon Baseline
Part 2 Item	NA
Background Papers:	Cheshire East Carbon Neutral Action Plan