

Denbighshire County Council's Climate and Ecological Change Strategy 2021/22 to 2029/30 (Year 3 Updated Version)

Description:	This document tells you about the Council's Net Carbon Zero and Ecologically Positive goals and the tasks we are going to seek to deliver to achieve our 2030 goals.
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What is this document?

Denbighshire County Council declared a [Climate Change and Ecological Emergency](#) in July 2019.

In response and by the 31st of March 2030 the Council aims to become a:

- Net Carbon Zero Council
- Ecologically Positive Council

This document tells you more about those two aims, the Council's plus target of 35% reduction in supply chain emissions by 2030 and the tasks we are going to seek to deliver to achieve these 2030 goals. This document was first published in 2021 and has undergone its first review and refresh 3 years on to create this version. The document explains the progress made towards achieving these goals since 2021 and includes new sections on County-wide information and Climate Adaptation.

This document is also available in Welsh and may be available in other formats on request.

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Welcome to Denbighshire County Council's Climate and Ecological Change Strategy (*year 3 updated version*)

Climate and ecological change is the globally defining challenge of our time. It impacts all living things that call our planet home including you and me. This document outlines our net carbon zero and ecologically positive goals for the Council along with the changes and actions we have identified so far that we will endeavour to deliver between now and 2030. In this, our first of two strategy review and refreshes within the strategy period 2021-2030, we also acknowledge the need for, and the Council's role to support and influence, a wider approach to achieve carbon reduction, carbon sequestration (or absorption) and nature recovery across the county and includes for the first time ways to tackle climate risk through adaptation.

Since Denbighshire County Council declared its climate change and ecological emergency in 2019, and adopted this strategy in 2021, we have been working to achieve our 2030 goals and make our contribution to tackling the climate and ecological emergency we all face. We are proud to have been one of the first Council's in Wales to have tackling climate and ecological change as a guiding principle in its decision-making process, formally changing in October 2020 our Constitution- the set of rules and principles that the Council follows when delivering its work. We also look to build on our strong track record on reducing carbon and improving biodiversity delivered under our previous [Corporate Plan priority for the Environment](#) and most recently being delivered under our Corporate Plan (2022-2027) theme '[A Greener Denbighshire](#)'. By working to achieve the 2030 goals within this strategy we hope to make our contribution to see carbon emissions reduce to net zero in Wales by 2050 and deliver on our statutory duty as a local authority to maintain and enhance biodiversity and promote resilience of ecosystems as outlined in the [Environment \(Wales\) Act 2016](#). By working to achieve these goals we hope to make our contribution to see the Public Sector in Wales become net carbon zero by 2030 as outlined in Welsh Government's [Prosperity for All: A Low Carbon Wales](#) delivery plan.

Great progress has been made in many key areas such as waste, street lighting and business travel, along with the start of the public EV infrastructure roll out – including opening the largest charging hub in Wales at West Kinmel in Rhyl, funded by Welsh Government. There has also been success with regards nature recovery in the county through the Wildflower Meadow project, where council owned grassland is being managed

for biodiversity, and the Little Tern protection project at Gronant becoming one of the most important in Britain. We are going in the right direction, but we cannot stand still and our ability to deliver on our climate action and nature recovery ambitions is impacted by the serious financial limitations we, along with all local councils, are facing. It is becoming clear that whilst our progress is a positive one in this agenda, the pace of this change is not currently at that required to meet our 2030 targets with some areas, including buildings and land use, particularly struggling to meet targets. The financial pressures all local authorities are facing now and in the coming years will impact on that pace further. However, it is also recognised that much of the work being carried out for this agenda has additional benefits. Actions to reduce carbon, often also reduce costs for the council, and increasing biodiversity for nature also creates spaces for health and wellbeing, education and leisure for our communities. Our work to tackle and mitigate these emergencies has multiple reasons for us to continue to aim high and strive to achieve our ambitions.

For us to achieve our 2030 goals, it will not be easy, but we will maintain this ambition and not adjust targets, despite their challenge, as we go into the next 3 years of our strategy. We remain committed to go as far as we can and as fast as we can, with the resources we have available, so we can make our contribution to tackling climate change and delivering nature's recovery for the well-being and protection of our communities, staff and partners now and for generations to come.

[January 2024]



Cllr Barry Mellor
(Lead Member for
Environment and
Transport)



Gary Williams
(Corporate Director -
Governance and
Business)

The changing climate and decline in nature

As the amount of carbon dioxide (CO₂e¹) human society has emitted into the earth's atmosphere has increased so to have global temperatures. Without reducing CO₂e emissions the earth will get warmer and warmer. This rise in global temperature is causing our climate and planet to change.

The changes to our climate include: hotter drier summers, warmer wetter winters, more extreme weather events and sea level rise. This causes: more drought and wildfire, stronger storms, more heat waves, flooding, damaged corals, less snow and ice, thawing of permafrost, changes in plant life cycles and changes to animal migration and life cycles.

At the same time, nature is in decline with a reported 69% decline in the world's wildlife population since 1970². Human activity is reducing the quality and the amount of habitat available for wildlife, and habitats are becoming increasingly fragmented effecting the ability for species to migrate and stay in their required climate to sustain life, complete their lifecycles and ultimately impacting survival. As temperatures continue to rise, and habitats extent and connectivity continue to decline, climate change will become an increasing driver for species losses.

The climate is changing everywhere on our planet including here in North Wales. The region has experienced in recent years wider and more frequent flooding, extreme heat and stronger and more frequent storms. The numbers of 380 Welsh species monitored have declined by 20% since 1994. 18% of species known to be present in Wales are at risk of extinction, that's one in six species, including the water vole and sand lizard³. Wales is also in the bottom 10% of countries for biodiversity, showing just how damaging biodiversity loss has been over the last decades for our nation. Dormouse populations across the UK, as an example, have declined 51% since 2000⁴ and in all former strongholds across Denbighshire. Since the 1970s, the distribution of 42% of flowering plant species in Wales have also decreased. These trends have led to many experts

¹ CO₂e is short for "carbon dioxide equivalent" which is used for describing different greenhouse gases in a common unit- carbon.

² According to the [World Wildlife Fund \(WWF\) Living Planet Report, 2022](#)

³ According to The [State of Nature \(Wales\) Report, 2023](#)

⁴ According to [The State of Britain's Dormice Report, 2019](#)

warning that there is a risk of the collapse of the ecosystems we rely on, if we do not act urgently.

In response to this nature emergency, Wales is now party to a new set of international biodiversity targets under the Convention on Biological Diversity. The State of Nature report³ addresses the need to respond to this crisis and outlines potential key areas to focus upon. For example, the need to help improve Wales's protected habitats, with only 35% recorded as being in a favourable condition. With temperature and rainfall records broken and many named storms seeing out 2023 in the UK, the latest data released by the Met Office illustrates just how fast our climate continues to change. It has been confirmed that 2023 was the warmest year on record and we now have a rise of around 1.2°C in global temperatures above pre-industrial levels. In October 2018, the [Intergovernmental Panel on Climate Change](#) (IPCC) published a Special Report on the impacts of a 1.5 °C rise in global temperatures. The IPCC found that a 1.5°C increase would have significantly lower climate-related impacts for the natural world and human society than a 2°C rise. The IPCC estimated that global carbon emissions would need to reduce to net zero by 2050 at the latest to ensure global temperatures remained under 1.5 °C and that the majority of actions required to meet this target would need to be completed by 2030. However, greenhouse gas levels remain rising quickly and the IPCC has recently stated the world is "likely" to warm beyond 1.5C.

Efforts are underway to tackle climate change and nature's decline across the globe. One of the examples of successful species projects, included in the State of Nature report 2023, is the protection of Little Terns in our very own county of Denbighshire where the main Welsh breeding colony at Gronant has become one of the most important in Britain. Leaders from nearly 200 countries have agreed further action to transition away from fossil fuels at COP28 and increase renewable energy by 2030.

However, the realisation that time is fast running out is clear. Organisations including Denbighshire County Council, and over 300 other UK local authorities, continue to be committed to tackling the climate and nature emergency and understand the need to act is now. The Welsh Government and UK Government have also declared a climate emergency, with Welsh Government also declaring a nature emergency in 2021. The

[Welsh Government Public Sector Route Map](#) and [Nature Recovery Action Plan](#) have both been created to guide the public sector to achieving clear progress by 2030.

How this Strategy has been developed

Denbighshire County Council declared a Climate and Ecological Emergency in July 2019 which committed the Council to become net carbon zero by 2030 and improve biodiversity.

Denbighshire County Council ran an engagement period in January and February 2020 asking for the public's feedback on the Council's proposed net carbon zero and ecologically positive goals and for any ideas on how the Council can achieve them by 2030. Building on the public's ideas Denbighshire County Council worked throughout 2020 with Councillors and Officers from across the Council to develop the Council's Climate and Ecological Change Strategy (2021/22 – 2029/30). This included calculating the Council's carbon footprint and the biodiversity of Council land, exploring our pathway to 2030 via scenario planning and holding workshops with all the service areas that make up the Council to identify and develop further what changes we could make and what projects we could deliver to help the Council achieve its goals.

In November 2020 the Council asked its staff and the public for their feedback on the draft document. This feedback helped to shape the Council's final Climate and Ecological Change Strategy (2021/22 – 2029/30) which was then presented to the Elected Members of Denbighshire in February 2021 for adoption. Since then, the Council has been working to deliver on the changes and projects identified in the strategy document to help the Council achieve its 2030 goals. The strategy document will be formally reviewed and refreshed every 3 years up until 2030 (2023/24 and 2026/27).

This Year 3 Updated Version of the strategy is the outcome of that first of two formal reviews and refreshes. The general approach taken in 2020 as described above that been repeated, with an online public survey in Spring 2023 and a public consultation event held in November 2023 providing information to feed into the review and refresh. Workshops were held with all the service areas that make up the Council to identify any further changes we could make and projects we could deliver to help the Council achieve its goals. When the Council declared a climate and ecological emergency in 2019, our resulting strategy focussed on carbon reduction, sequestration and nature recovery created by the council. Since then, feedback we have received from the public and evidence regarding our influence as a council, has highlighted the need for us to broaden

the strategy scope and look wider. In this Year 3 Updated Version strategy we recognise the importance for us to look at tackling this emergency across the county and to recognise that the Council's response is required at strategic, organisational and operational levels, but also at community levels across Denbighshire.

This work was guided by the Climate Change and Ecological Emergency Political Working Group which was set up as part of the emergency declaration. This group is made up of two representatives from each political party represented in the Council including the lead members on Cabinet covering climate and ecological change.

The calculations for the Net Carbon Zero baseline and ambitions have followed the methodology for calculating carbon emissions and carbon absorption in Welsh Government's new Greenhouse Gas Reporting Regime for the Welsh Public Sector.

The calculations for the Ecological Positive baseline and ambitions have been guided by established methodologies for measuring biodiversity value from NERC- the Centre for Ecology and Hydrology. Biodiversity is vast, complex and interconnected and as such any measure for biodiversity value is a pointer only.

In March 2024 the Council asked its staff and the public for their feedback on the completed draft Year 3 Updated Version strategy document. This feedback helped to shape the final Climate and Ecological Change Strategy (2021/22 – 2029/30)- Year 3 Updated Version which was then presented to the Elected Members of Denbighshire in July 2024 for adoption.

Other Council Strategies

There are a number of other strategies the Council has, and areas of work the Council is undertaking, that supports the Council in tackling climate and ecological change. These include:

- [Adult Social Care & Homelessness \(ASCH\) Service Carbon Reduction Strategy 2023](#)
- Air Quality Management Plan
- Ash Die Back Strategy (currently in development with Conwy County Borough Council)
- Biodiversity Duty Delivery Plan
- [Corporate Plan](#)
- Clwydian Range and Dee Valley AONB Management Plan
- County Allotment Strategy (currently in development)
- Denbighshire County Council's Social Housing Asset Management Plan
- [Denbighshire County Council's Active Travel Plan](#)
- Denbighshire Local Area Energy Plan (currently in development)
- Denbighshire County Council's non-domestic estate [Asset Management Plan](#)
- Development Control & Planning Policy
- Digital Strategy
- [Economic Strategy \(currently in development\)](#)
- EV first vehicle replacement policy
- Fleet Strategy
- Housing and Homelessness Strategy
- [Local Development Plan](#)
- [Local Flood Risk Management Strategy](#)
- Procurement & Commissioning Strategy 2023 - 2027
- Sustainable Communities for Learning Programme
- Woodland and Tree Strategy (currently in development)

Net Carbon Zero Council by 2030

What is our goal?

Net Carbon Zero

Our goal is for the total carbon emitted by the Council minus the total carbon absorbed from Council owned and operated land⁵ to equal zero by 31st March 2030. This is our net carbon zero ambition.

The following sources of emissions will count towards our net carbon zero goal and will be referred collectively as Denbighshire County Council's Net Carbon Zero Footprint:

Buildings	We will reduce emissions from the electricity, gas, LPG, oil, biomass and water we use at Council owned buildings ⁶ .
Waste	We will reduce emissions from the waste generated by the Council.
Fleet	We will reduce emissions from the petrol and diesel we use to power the vehicles owned by the Council.
Staff commuting	We will reduce the emissions from the travel undertaken by staff and councillors coming into work and returning home.
Street lighting	We will reduce emissions from the electricity used by Council owned lamp posts, traffic signs and signals.
Business travel	We will reduce the emissions from the travel undertaken by staff and councillors whilst carrying out their job.

⁵ Land that the Council owns but rents out to others is not included.

⁶ Council owned building refer to buildings such as offices, depots, schools and leisure centres that the Council own. However, Council Housing is not included.

The following sources of carbon absorption will count towards our carbon zero goal:

Grassland We will maintain the amount of grassland the Council owns and operates.

Forest / woodland We will increase the amount of forestland and woodland the Council owns and operates.

Supply Chain

In addition to this, we aim to reduce the total carbon emitted from the Council's supply chain by 35%⁷ by 31st March 2030.

Supply chain We will reduce emissions from all the goods and services the Council buys from others.

What is our starting point?

Net Carbon Zero

The total carbon emitted from Denbighshire County Council's Net Carbon Zero footprint at our baseline in 2019/20 was 16,448 tCO₂e⁸.

The total carbon absorbed from Denbighshire County Council owned and operated land at our baseline in 2019/20 was 2,418 tCO₂e.

Therefore, the Council's Net Carbon Zero position in 2019/20 was +14,030⁹ tCO₂e.

⁷ Compared to 2019/20 baseline

⁸ tCO₂e is short for "tonnes of carbon dioxide equivalent" which is used for describing different greenhouse gases in a common unit- carbon.

⁹ This is calculated by subtracting carbon absorbed from carbon emitted, i.e., subtracting the 2,418 figure from the 16,448 figure.

The Net Carbon Zero Council goal is to get that 14,030 tCO₂e figure to zero by 31st March 2030.

At the point of this 3-year review that net figure currently stands at 11,932 tCO₂e. This figure is based on the council's latest reporting figures, in 2022/23, having achieved a 1,358 tCO₂e reduction in carbon emissions and an increase of 740 tCO₂e carbon sequestered (or absorbed) through our actions so far, since the 2019/20 baseline.

The tables and graphs below describe the Council's carbon emission and absorption sources 2019/20 compared to 2022/23.

Table 1: Carbon emissions per source

Source of carbon emissions	Amount of carbon emitted in 2019/20 in tCO₂e	% of total in 2019/20	Amount of carbon emitted in 2022/23 in tCO₂e	% of total in 2022/23
Buildings	10,151	62	9,082	60
Fleet	2,693	16	2,302	15
Staff Commuting	1,848	11	2,860	19
Street Lighting	788	5	419	3
Business Travel	550	3	251	2
Waste	418	3	177	1
Total	16,448	100	15,091	100

Chart 1: Denbighshire County Council Net Carbon Zero Footprint in 2019/20

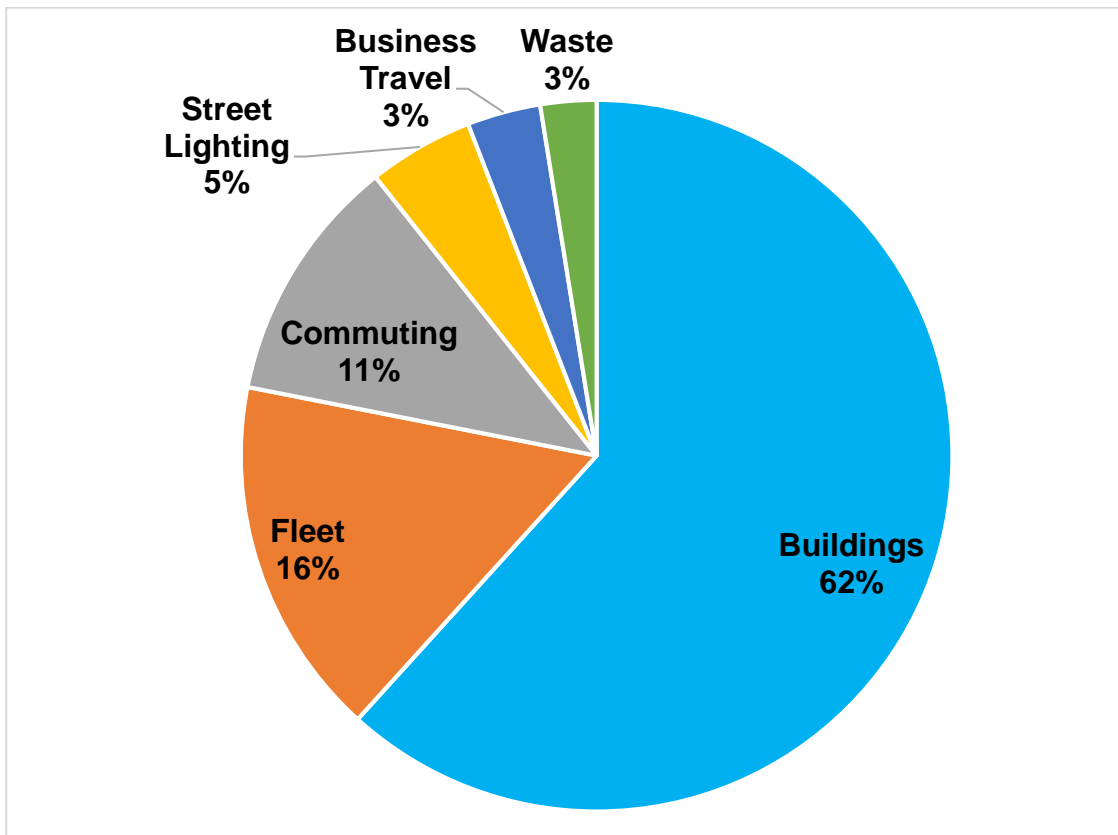


Chart 2: Denbighshire County Council Net Carbon Zero Footprint in 2022/23

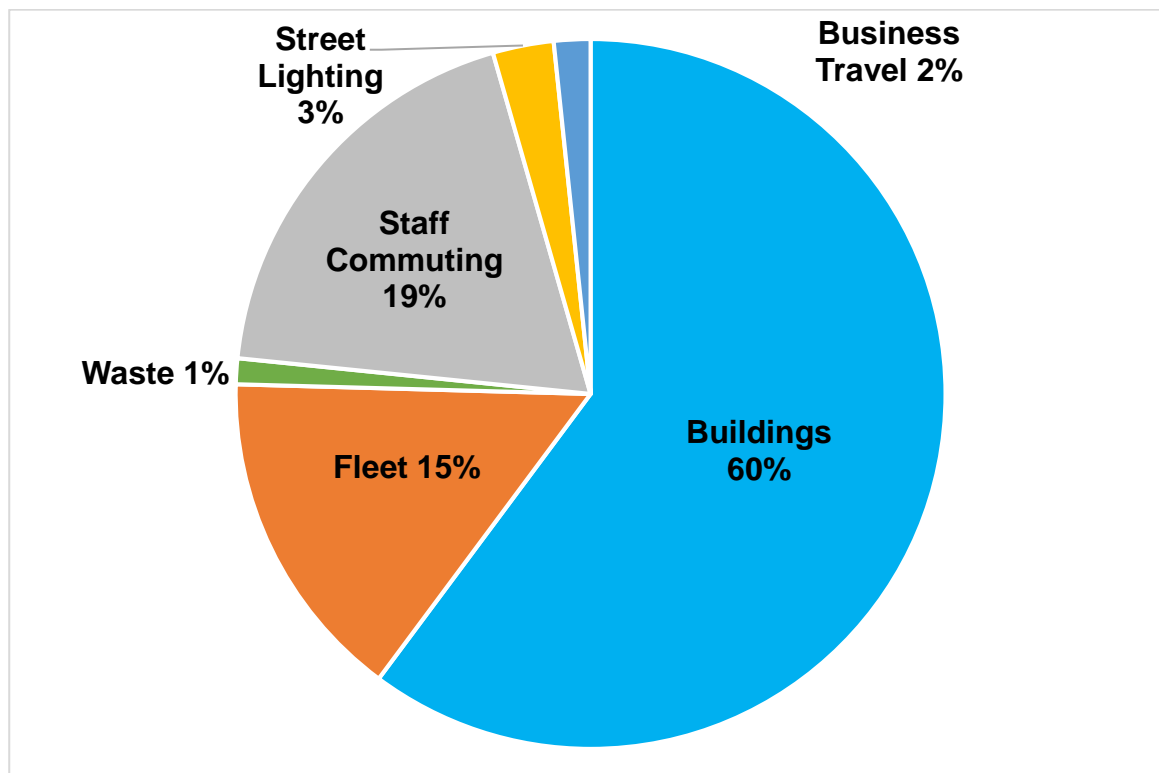


Table 2: Carbon absorption per source

Source of carbon absorption	Amount of carbon absorbed in 2019/20 in tCO2e	% of total	Amount of carbon absorbed in 2022/23 in tCO2e	% of total in 2022/23
Grassland	1,564	65	1,306	43
Forest / woodland	854	35	1,722	57
Total	2,418	100	3,028	

Chart 3: Denbighshire County Council's Carbon Absorption in 2019/20

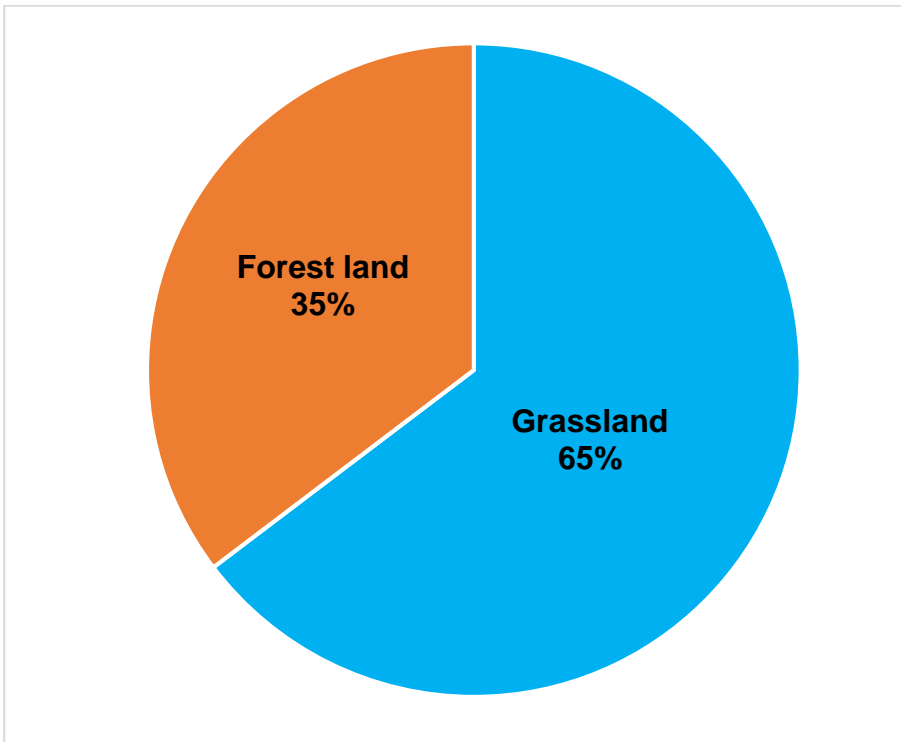
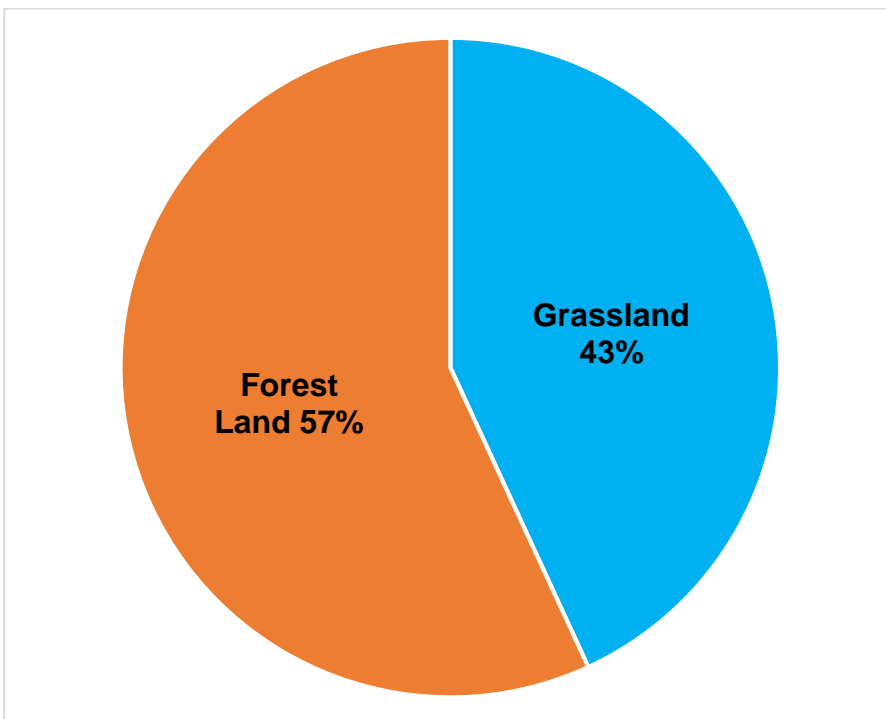


Chart 4: Denbighshire County Council's Carbon Absorption in 2022/23



Supply Chain

In addition, the Council is estimated to have emitted 25,125¹⁰ tonnes of CO2e from its supply chain in 2019/20.

In 2022/23 the Council is estimated to have emitted 36,912 tonnes of CO2e from its supply chain.

¹⁰ The methodology for calculating our supply chain emissions is more inclusive of our spend compared to approach used in 2020/21 in the first publication of the strategy. However, accuracy of this methodology is still problematic.

Where do we want to get to?

Net Carbon Zero

To achieve our Net Carbon Zero goal, the Council needs to reduce the amount of carbon it emits and increase the amount of carbon it absorbs.

The table below describes by how much we need to aim to reduce our carbon emissions by for each source by 31st March 2030. It also shows the progress made per emission source to date, in comparison to the baseline data compiled in 2019/20.

The graphs below show the change in each source of carbon emissions and in each source of carbon absorption comparing the total amounts in 2019/20 to the total amounts in 2029/30 if the Council is successful in achieving its targets, along with the progress to date in 2022/23. [Also, the progress to date against our annual and 2030 targets.](#)

The Council's direct intervention continues to play a central role in order to deliver this carbon reduction. Our efforts have combined, and will continue to combine, with efforts nationally to decarbonise fuel and energy networks. We have been, and will continue to be, responsive to new opportunities that may arise between now and 2030 that enable us to go further on reducing our carbon emissions¹¹.

¹¹ For example, the introduction of a readily accessible new technology or a major development in ways to generate energy.

Table 3: Reduction target by 2030 per source of carbon emission, actual emissions in year 3 (2022/23), percentage change in 2022/23 compared to baseline and emissions still left to reduce to meet 2030 target (2023/24- 2029/30)

Source of carbon emissions	% reduction targets compared to 2019/20	Projected emissions in 2029/30 in tCO2e if target met	Actual emissions in Year 3 (2022/23) in tCO2e	% change in 2022/23 compared to baseline	Emissions still to reduce in tCO2e to meet target
Buildings	-60%	4,060	9,082	-11%	5,022
Fleet	-60%	1,077	2,302	-15%	1,225
Staff Commuting	-20%	1,478	2,860	+55%	1,382
Street Lighting	-50%	394	419	-47%	25
Business Travel	-80%	110	251	-54%	141
Waste	-50%	209	177	-58%	n/a
Total	N/A	7,329	15,091		7,795

Chart 5: Denbighshire Net Carbon Zero Annual Progress up to 2022/23

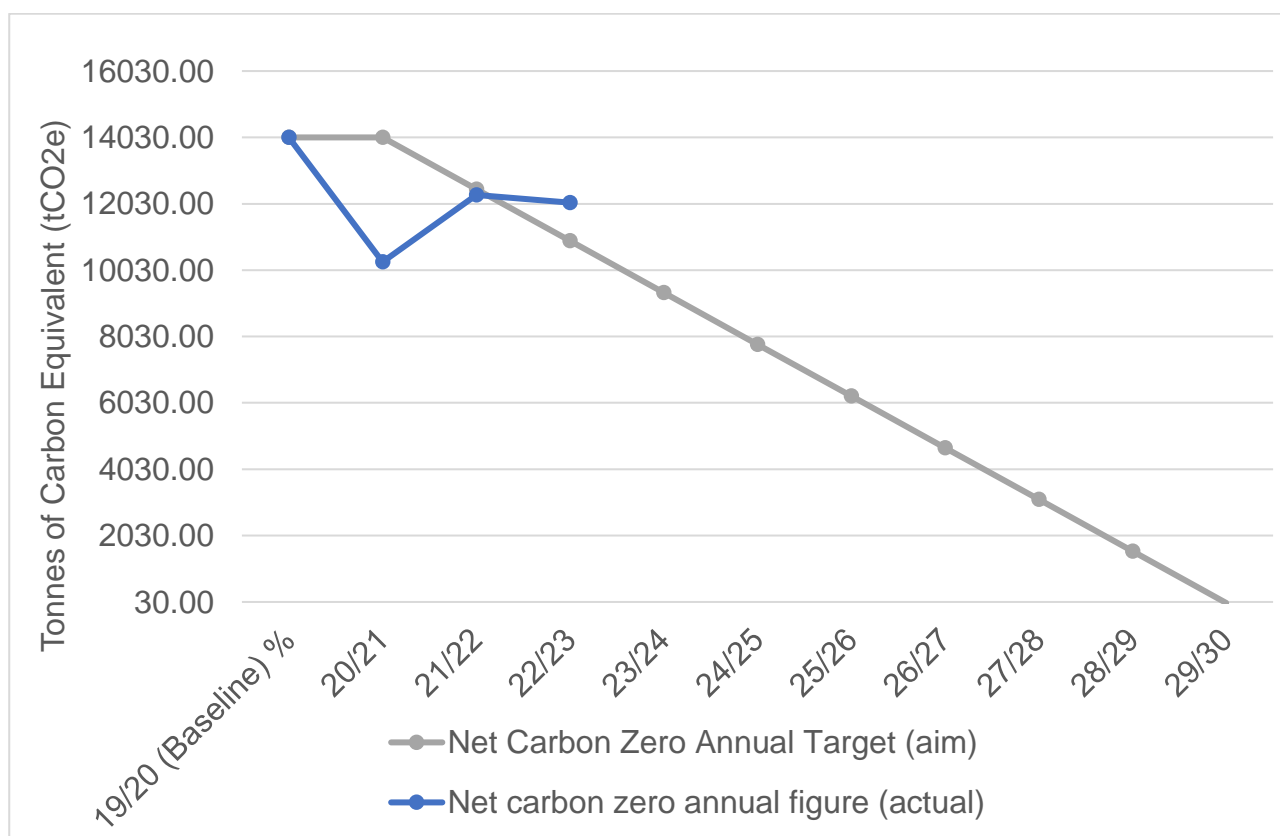
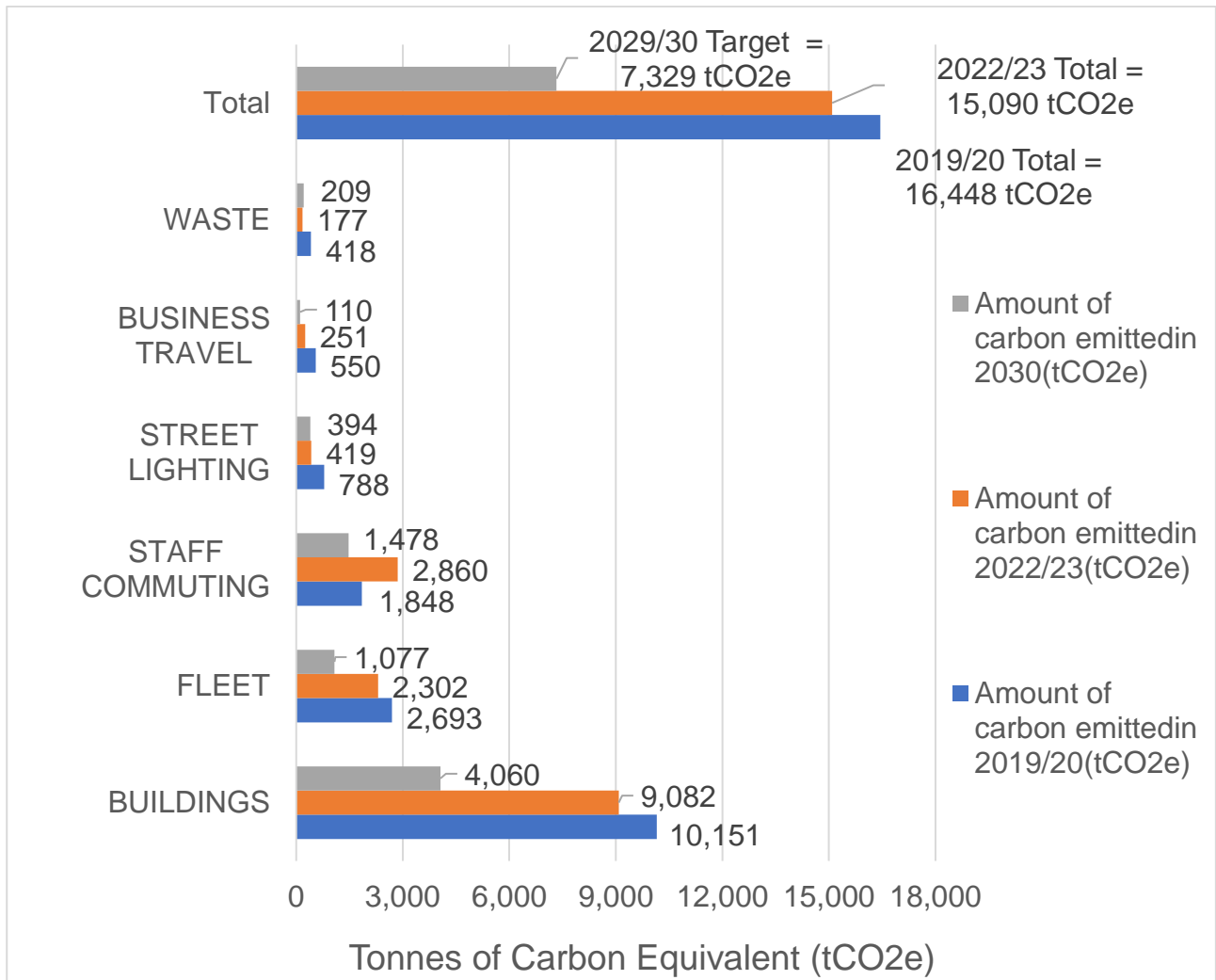


Chart 6: Amount of carbon emitted by the Council in 2019/20 compared to projected emissions in 2029/30 and progress to date in 2022/23



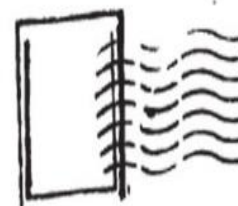
There are several areas where the Council is exceeding its annual target emission reduction for that source, for example in street lighting, waste and business commuting. However, there are other areas where reduction is not at the pace required and, for a number of reasons, the target is unlikely to be achieved by 2030. These areas include buildings and carbon sequestration. Other areas which require further analysis include staff commuting, which is currently based on estimated data.

For those areas where the required target has proven to be a challenge, further information is provided in Technical Appendix 1 to explain the predicted gap between the known and targeted pathways and the reasons for this expected gap.

A postcard from the future is included below as a way of bringing these figures to life through story telling- providing an example of how the Council might have gone about achieving its 2030 targets.

Postcard 1: Reducing carbon emissions

Dear 2020 Council, Year 2030 here! What a challenging but rewarding Net Carbon Zero Council journey you have been on. Not wanting to give you spoilers but here's some of the headlines on how you've reduced your carbon...



In Council buildings the use of energy for heating, anything that uses electricity, and the use of water has reduced through increasing the air tightness of the building and efficiency of the systems and equipment within them. All new Council buildings that are built are low carbon in operation. Onsite generation of renewable electricity has increased. More sites heating systems have been converted to low carbon and renewable options. Rainwater harvesting is utilised more widely for the water use in Council buildings.

Excess travel by Council Fleet vehicles has increasingly been avoided by service delivery being even more accessible and efficient. There has been a big increase in electric vehicles owned by the Council and electric vehicle charging points have been installed across the Council's buildings and car parks. Ultra-low emission options for our larger fleet vehicles such as bin lorries and gritters have been piloted.

Our recycling rates have gone from strength to strength with less contamination now waste is source segregated. A focus in waste prevention in the County has reduced the overall tonnage of waste produced and collected by the Council as more items are used and reused which would previously just have been thrown away.

Working from home is readily available now for staff who can, and the Council office estate has been made efficient. When staff do come into the office it's to an office closest to where they live which reduces mileage and increases the number of staff walking, cycling (active travel) or catching the bus to work. Business travel for meetings is very rare now as virtual meetings have become the norm. When officers do meet it is often closer to their respective homes and not necessarily in a Council main office. Officers who have to travel to carry out their work have access to an electric vehicle.

The table below describes how much we aim to increase the amount of carbon absorbed for each source of carbon absorption by 31st March 2030. It also shows the progress made per source of carbon absorption to date, in 2022/23, and in comparison, to the baseline data compiled in 2019/20. The amount still required in order to meet our target is also shown. [Also, the graphs show the progress to date against our annual and 2030 targets.](#)

The Council’s direct intervention will play a central role in order to deliver this increase in carbon absorption as well as getting a better understanding of the carbon absorption capacity of some of our more established landscapes.

Table 4: Increase target by 2030 per source of carbon absorption, progress to date and carbon still left to absorb (2023/34 – 2029/30)

Source of carbon absorption	% increase targets compared to 2019/20	Projected absorption in 2029/30 in tCO2e if target met	Actual absorption in Year 3 (2022/23) in tCO2e	% change in 2022/23 compared to baseline	Carbon absorption in tCO2e still required to meet target
Grassland	0%	1,564	1,306	-17%	0
Forest / Woodland	+575%	5,765	1,722	+102%	4,301
Total	N/A	7,329	3,028		4,301

Chart 6: Amount of carbon absorbed by the Council in 2019/20 compared to forecasted absorption in 2029/30 and progress to date in 2022/23

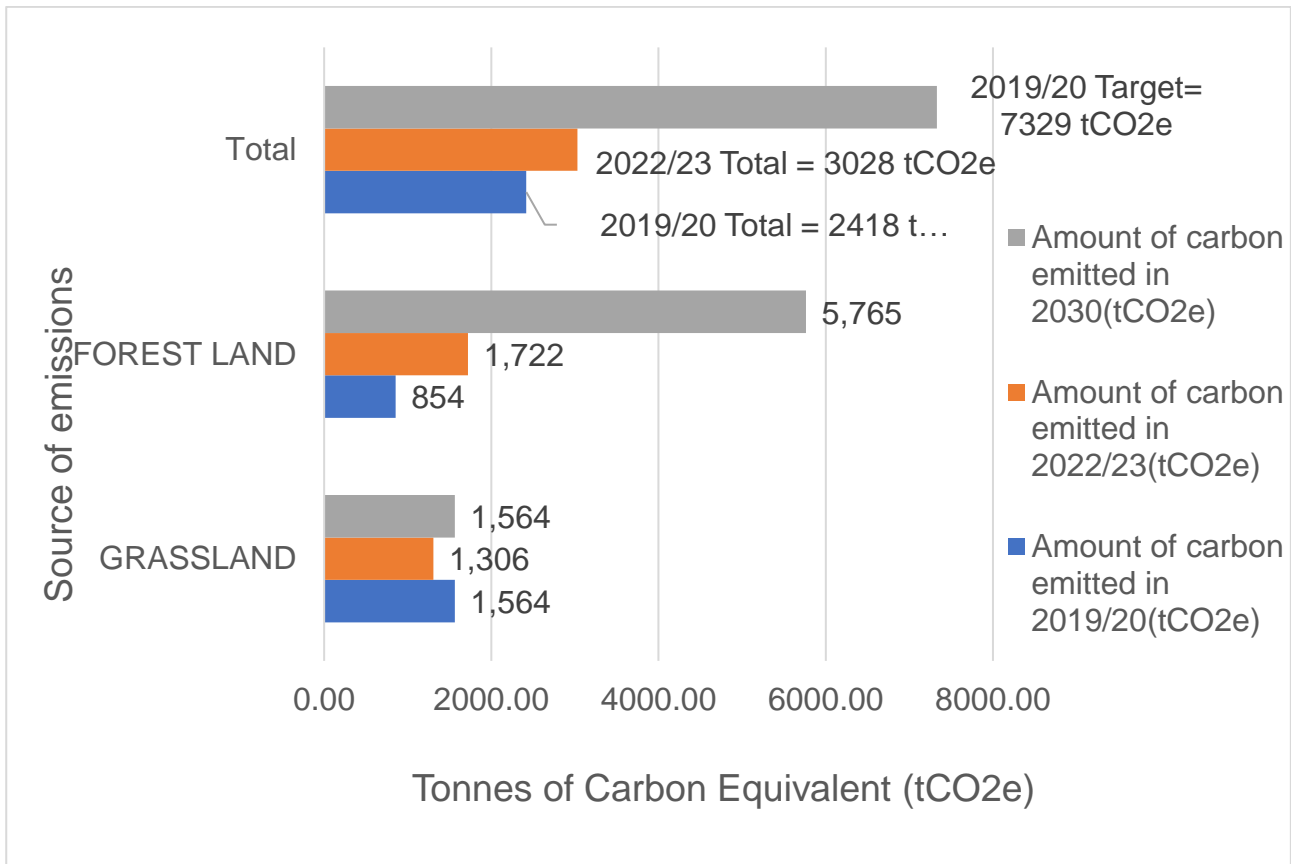
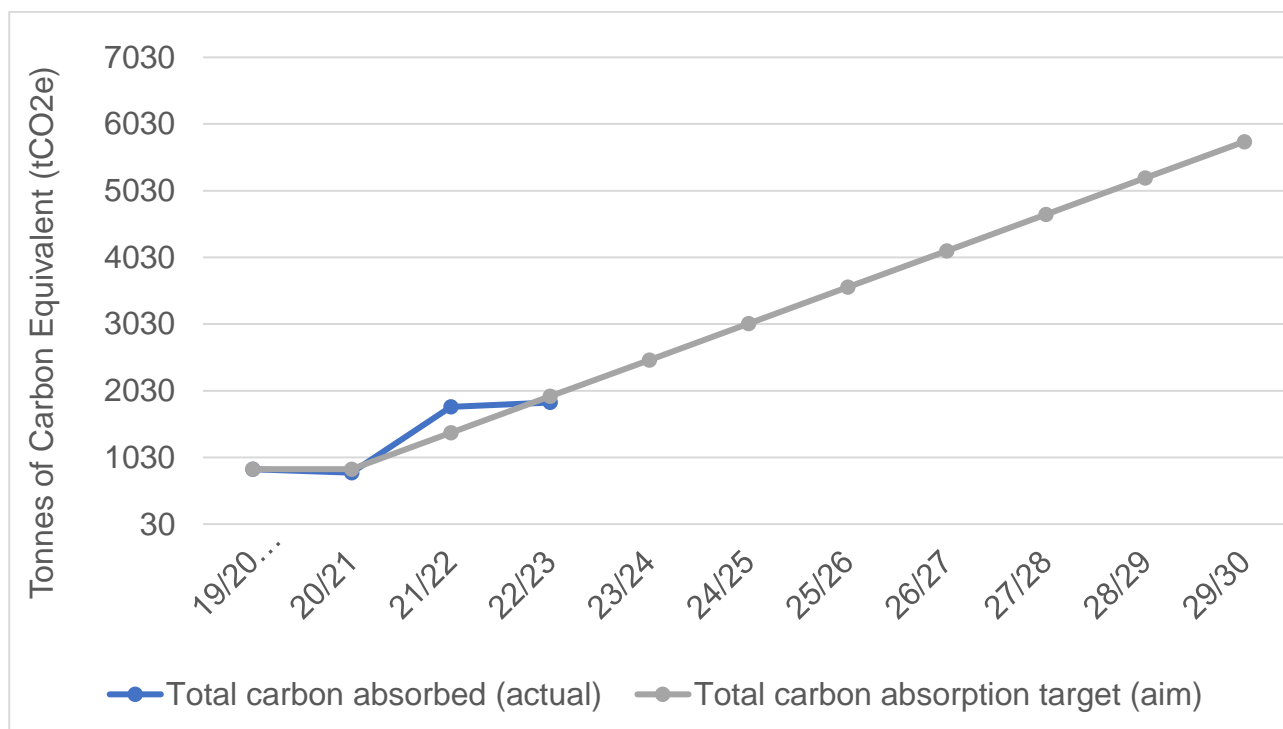


Chart 7: Denbighshire Carbon Absorption Annual Progress from forestland up to 2022/23 (majority adjusted) and annual targets



There are several areas where the Council is exceeding its annual target emission reduction for that source, for example in street lighting, waste and business commuting. Carbon sequestration is an area where increase is not currently at the pace required and, for a number of reasons, the target is unlikely to be achieved by 2030. Further information is provided in Technical Appendix 1 to explain the predicted gap between the known and targeted pathways and the reasons for this expected gap.

A postcard from the future is included as a way of bringing these figures to life through story telling- providing an example of how the Council might have gone about achieving its 2030 targets.

Postcard 2: Increasing carbon absorption

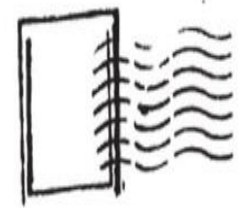


Image from
Postcard from the
Future competition
winner, Macey
Roberts, age 14,
Tir Morfa Special
School

Dear 2020 Council, Year 2030 here! What a challenging but rewarding Net Carbon Zero Council journey you have been on. Not wanting to give you spoilers but here's some of the headlines on how you've increased your carbon absorption...

The Council has maintained the amount of grassland in its ownership *wherever possible*, safeguarding the carbon absorption benefit and delivered projects to improve the species richness of its grassland habitats for the benefit of biodiversity.

The Council has made big efforts in increasing the amount of forestland and woodland it owns and operates. The Council over the 9 years has converted existing, and bought new land, turning it into carbon sinks and wildlife havens via carefully selected tree planting including elements of species rich grassland.

This activity achieved additional benefits wherever possible for the Council and its communities including the planting of trees upland from river catchments to reduce the risk of flooding and maximising on the opportunities to open these spaces up to the public for leisure, tourism and improved wellbeing.

If the Council is successful in achieving its targets as outlined in the above tables, in 2029/30 the Council's total carbon emissions minus the Council's total carbon absorption will equal zero. The Council will have achieved its ambition to become net carbon zero.

Supply Chain

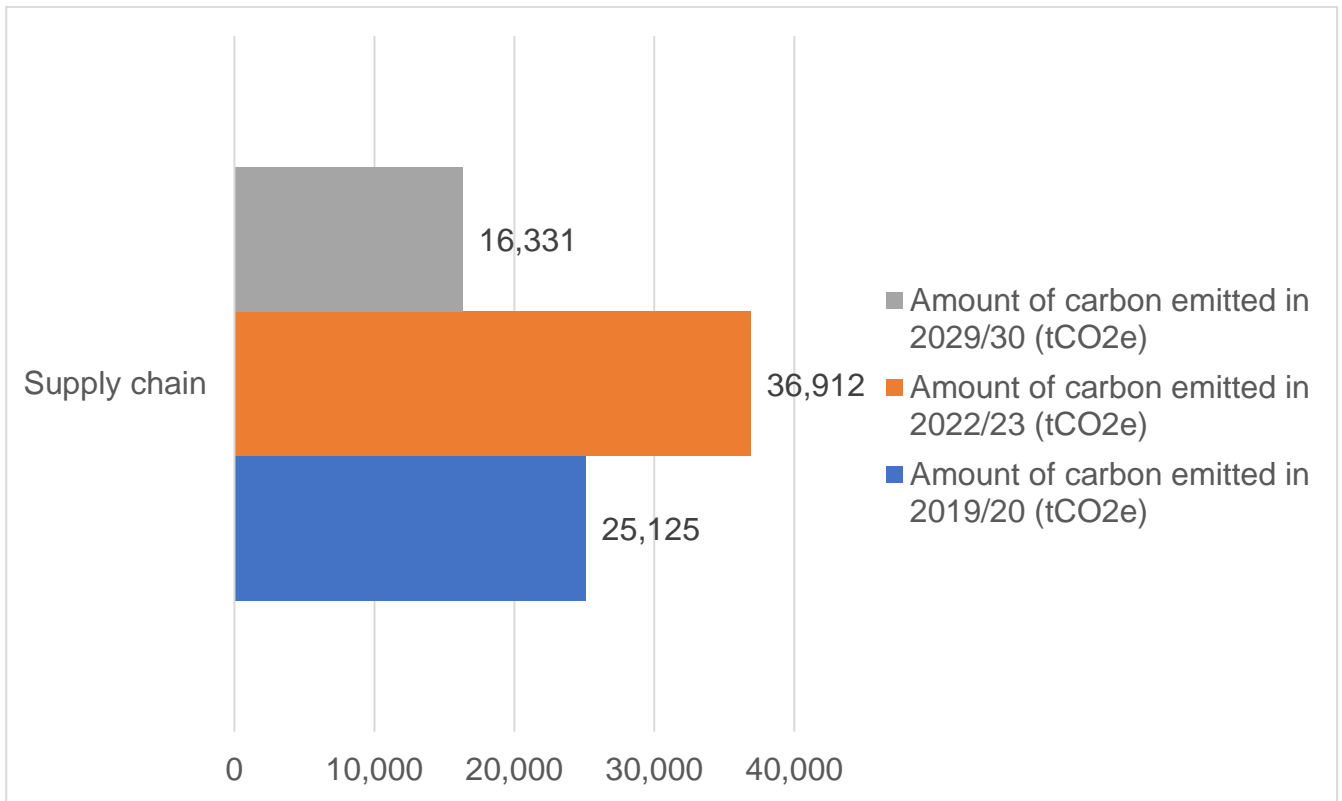
The Council also aims to reduce the carbon emitted from our supply chain by 35%. We will work with companies and businesses who we buy our goods and services from to reduce the carbon intensity of what we buy and how we deliver services and also to maximise on the local community benefit we can generate from those contracts.

The table below describes how much we aim to reduce the amount of carbon emitted from the Council's supply chain by 31st March 2030. It also shows the progress made to date, in 2022/23, and in comparison, to the baseline data compiled in 2019/20. The amount still required in order to meet our target is also shown.

Table 5: Reduction target for carbon emission from our supply chain, progress to date and carbon still left to absorb (2023/34 – 2029/30)

Source of carbon emissions	% reduction targets compared to 2019/20	Projected emissions in 2029/30 in tCO ₂ e if target met	Actual emissions in Year 3 (2022/23) in tCO ₂ e	% change in 2022/23 compared to baseline	Carbon emissions in tCO ₂ e still required to meet target
Supply Chain	-35%	16,331	36,912	+47%	20,581

Chart 8: Amount of supply chain carbon emissions 2019/20 compared to what is forecasted for 2029/30 and progress to date in 2022/23



The current methodology to determine emissions from our supply chain is based on multiplying a fixed emissions factor depending on what is being bought by the total spend on that type of purchase. That means if the price of goods and services increase our carbon increases even if that spend is on lower emission items such as EV vehicles instead of diesel power vehicles. This makes reductions of emissions from supply chain difficult to accurately quantify and monitor. Although our current pathway is showing an increase in carbon emissions it is difficult to be certain whether this is due to actual increased emissions rather than items purely costing more, for example due to inflation or the higher price of low carbon alternatives.

We are taking actions to reduce the emissions from our supply chain, for example through evaluating tenders on their carbon performance. However, significant change in performance in the data is likely only to come with improved emissions calculation.

A postcard from the future is included as a way of bringing these figures to life through story telling- providing an example of how the Council might have gone about achieving its 2030 target.

Postcard 3: Reducing supply chain carbon emissions



Dear 2020 Council, Year 2030 here! Not wanting to give you spoilers but here's some of the headlines on how you've reduced your supply chain carbon emissions...

The Council has reduced spend wherever possible most notably in paper as the Council in 2030 is now practicably paperless. Having introduced a whole life costing approach to procurement early in the programme, the Council has seen an uptake in buying higher quality items less often.

We have seen construction become much less carbon intensive leading up to 2030 helped by the Public Sector in Wales being clear to suppliers that low carbon delivery of new build project was very important.

It goes without saying now that additional value is sought from every Council contract over £25,000. Working with our communities, together we have identified the environmental benefit valued most with community benefit projects delivered by/ with suppliers for the benefit of carbon reduction, carbon absorption and biodiversity improvement.

What changes and actions will help us get there?

Changes to Council processes and policies

To achieve our net carbon zero goal by 2030 will require the Council to adjust how it goes about delivering the wide range of work and tasks required of us by Welsh Government, by our partners and by our communities.

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the over 100 suggestions for processes and policies changes that were identified in 2020 to contribute to reducing carbon emissions and increasing carbon absorption. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy.

Appendix 2 in the Technical Appendices provides information on the process and policy changes listed in the strategy adopted in 2021 that have been completed.

The list below highlights some of the priority changes to Council processes and policies that we hope to make in Year 4 to 6 (2024/25 - 2026/27) of delivering this strategy to support the Council to successfully achieve its net carbon zero goal by 2030.

This is a dynamic and flexible list; other things may be implemented that do not feature in the graphic below responding to new opportunities.

- Continue to implement the EV first vehicle replacement policy
- Support the council to comply with legislation: to consolidate and increase recycling in all of our Council buildings and schools
- Ensure the carbon reduction is being appropriately considered in Council Procurement - Policy and Strategy documents, Commissioning templates, tender evaluations. To include the introduction of applying a weighting to carbon reduction quality questions
- Identify the Council officers who procure on a regular basis to target communication and training as to the Climate and Ecological Change agenda and the contribution that environmentally responsible procurement can make

- Engagement with local businesses to increase understanding in respect of Decarbonisation and work with them to ensure decarbonisation outcomes are achieved
- Update and build on climate and ecological change website and Linc pages (e.g. include performance data)
- Investigate Vector card ideas to provide low carbon and nature recovery opportunities for staff e.g. EV car hire discounts
- Align the HR policy with the climate and ecological change agenda when reviewing
- Build testimonials and case studies to increase understanding and confidence about low carbon practice and ecological improvement with contractors and suppliers
- Develop a learning pathway for suppliers and internal partners to gather experiences and feedback from large and small businesses, and gain best practice from across Wales (to also improve data collection)
- Carbon Specific KPI's to be included in contracts to monitor carbon reduction through the life of the contracts
- Pilot and adopt a Carbon Calculator to capture carbon emissions data from Tier 1 suppliers in delivering our contracts
- Request Carbon Reduction Plans as part of tender PQQ on all tenders above £XX (value to be agreed but is mandatory for all contracts above £5m)
- Ensure any External Frameworks used for procurements have robust requirements in terms of Carbon Reduction & Sustainability
- Ensuring good contract management is undertaken to monitor, capture and report on Carbon KPI's
- Research and adopt a central platform for capturing/recording of Carbon KPI's from all contracts across the Local Authority
- Heat Strategy for Wales - all public buildings on low carbon heat by 2030 within available funds and if energy costs allow
- Refresh and review the Digital Strategy to align with the climate and ecological change agenda
- Refresh the Asset Management Strategy to align with the climate and ecological change agenda

- Review internal process to investigate how best to communicate and capture carbon reduction and ecologically positive contributions in projects at start-up stage, including to review how contributions have been implemented by Projects through internal evaluation and through monitoring Project Closure Reports
- Using available governance mechanisms, continue to engage with DLL on climate change matters, exploring opportunities for performance measures
- Utilise portfolio plans to ensure we are using our whole estate to enable officer hot desking
- Review Sustainable Communities for Learning Redundant Site Policy to build in the option of Denbighshire County Council retaining the site for conversion to community woodland/orchards
- Supporting the implementation of the Council's change in constitution to have regard to tackling climate and ecological change by developing and introducing method and requirement for the presentation of a whole life cost
- Ensure an enhanced environmental option is always presented in business cases when deciding on major capital projects
- Explore funding models for investment in renewable energy products/schemes

Actions and projects

Achieving net carbon zero will require the Council to continue to build on existing programmes of activity started under the Climate and Ecological Change Programme and the Greener Denbighshire Theme of our Corporate Plan, in addition to delivering new projects and activity.

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the over 90 ideas for projects that were identified in 2020 to reduce carbon emissions and increasing carbon absorption. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy. In addition to other actions, we might take responding to new opportunities.

Appendix 2 in the Technical Appendices provides information on the projects and actions listed in the strategy adopted in 2021 that have been completed.

The list below provides an overview of the priority actions and projects that have been identified so far that the Council hopes to deliver which will reduce carbon emissions and increase carbon absorption. The delivery of all projects and actions identified is subject to securing the necessary funding. The constraint on Local Government funding is significant and will continue to be in the coming years which will impact on when and how the projects and actions identified can be delivered.

Actions to reduce Council's carbon from buildings and street lighting

Years 4 to 9 (2024/25 to 2029/30)

- Continue with programme of renewal of de-illuminating bollards and signage, where possible, and install reflective alternatives
- Continue to look for funding opportunities to enable ICT to switch from cabled to wireless networking to benefit flexible working and energy use
- Continue to work to reduce energy footprint through ICT and investigate to use of server generated heat to reduce energy demand
- Design new buildings and major refurbishments to be low carbon in operation to contribute to the target of reducing carbon emissions to 4060 tCO₂e by March 2030 (including consideration of LCTs and biodiversity enhancement e.g. rainwater harvesting, native living roofs etc) and implement in line with the adopted DCC policy for non-domestic new builds and major extensions/refurbishments (Dec 2021)
- Rationalise the number of non-domestic buildings in council's property estate through disposal or asset transfer to contribute to the target of reducing carbon emissions to 4060 tCO₂e by March 2030
- Review the existing zoning and minimum temperatures for the office estate to optimise heating for carbon reduction and minimise heating areas unnecessarily
- Utilise the available budget to undertake works to buildings to improve energy efficiency to contribute to the target of reducing carbon emissions to 7,329 tCO₂e by March 2030
- To consider long-term issues such as EV charging across sites as part of the Sustainable Communities for Learning and the requirement for new-build / refurbishment of schools to be Net Carbon Zero

Actions to reduce the Council's carbon from fleet, staff commuting and business travel

Years 4 to 6 (2024/25 to 2026/27)

- Introduce an electric vehicle home charging solution for staff who start and end their day at home but utilise Denbighshire County Council owned fleet vehicle.
- Install EV charging infrastructure into Council buildings, including offices, depots, libraries, and tourist attractions
- Convert all of Denbighshire County Council owned light commercials (up to 3.5 tonnes) vehicles to Electric Vehicles

Years 7 to 9 (2027/28 to 2029/30)

- Trial large vehicles which are powered by low and ultra-low carbon technologies (e.g. Bin Lorries)

Years 4 to 9 (2024/25 to 2029/30)

- Convert the majority of Denbighshire County Council owned larger sized vehicles to Ultra Low Emission options
- Look to trial/introduce low emission buses (EV, HVO, hydrogen or plug-in hybrid)
- Explore the opportunity of in-house provision of low carbon school transport vehicles (to approach Fleet first as opposed to tender), if budget allows
- Continue discussions with the climate team to understand issues the service are facing with regard to travel and commuting (and the resulting emissions)
- Investigate the possibility for staff to work from other Public Sector buildings and/or opening up other DCC assets for this purpose to reduce travel e.g. enabling hot desking at libraries etc

Actions to reduce the Council's carbon from waste

Years 4 to 6 (2024/25 to 2026/27)

- Ensure compliance with Workplace Recycling Laws 2024
- Reduce plastics in school and promote recycling in relation to the New Waste model

Years 4 to 9 (2024/25 to 2029/30)

- Implement newly standardised Recycling and Waste approach across all council buildings, schools and Council owned sites include provision of wide range of recycling
- Comply with legislation to consolidate and increase recycling in all of our Council buildings and schools

Actions to reduce the Council's carbon from the goods and services we buy

Years 4 to 6 (2024/25 to 2026/27)

- Consider ways to improve decarbonisation within supply chains whilst carrying out the North Wales Domiciliary Care Framework review
- Roll out and use the WLGA Carbon Reduction Toolkit

Years 4 to 9 (2024/25 to 2029/30)

- Explore with a view to possibly increase vegan (low carbon) food options in schools' catering service
- Utilise community benefits /Well-being impacts/SPPP Act in Council contracts to reduce carbon and increase carbon absorption
- Identify the Council officers who procure on a regular basis to target communication and training as to the Climate and Ecological Change agenda and the contribution that environmentally responsible procurement can make

- Engagement with local businesses to increase understanding in respect of Decarbonisation and work with them to ensure decarbonisation outcomes are achieved
- Build testimonials and case studies to increase understanding and confidence about low carbon practice and ecological improvement with contractors and suppliers
- Develop a learning pathway for suppliers and internal partners to gather experiences and feedback from large and small businesses, and gain best practice from across Wales (to also improve data collection)

Actions to increasing the Council's carbon absorption

Years 4 to 6 (2024/25 to 2026/27)

- Continue to grow and maximise the use of the County Tree Nursery
- Produce Tree and Woodland Strategy for DCC and implement actions accordingly

Years 4 to 9 (2024/25 to 2029/30)

- Continue to work with schools to identify land to plant trees and introduce wildflowers for biodiversity improvement and carbon sequestration
- Work to create and monitor management plans for DCC climate change and Countryside sites to increase biodiversity and woodland cover where appropriate, through natural regeneration and tree planting
- Utilise the available budget to increase the amount of land in the council's property portfolio to contribute to the target of increasing carbon sequestration to 7,329 tCO₂e by March 2030 and increasing biodiversity
- Continue to work with schools to identify land to plant trees and introduce wildflowers for biodiversity improvement and carbon sequestration

Actions to promote behaviour change within the Council

Years 4 to 9 (2024/25 to 2029/30)

- Implement a programme of initiatives and engagement with schools across the County to share learning and resources on this agenda and encourage positive behaviour change
- Implement a programme of initiatives to raise awareness of staff of the role they need to play in reducing our carbon emissions, and ensure measures are put in place to drive the necessary behaviour change
- Implement and expand on the internal Climate Champions Group to encourage representation from all services to help spread knowledge and awareness and feedback best practice and information regarding the climate and ecological change agenda

Reducing Carbon Emissions and Increasing Carbon Absorption Across Denbighshire- Using Our Influence

Why is this important?

Local authorities are responsible for 2 – 5% of local emissions but, according to research undertaken by the Committee on Climate Change¹², we can influence around a third of an area's emissions through place-shaping and leadership. By working to achieve our Net Carbon Zero Council 2030 goal we hope to influence carbon reduction and carbon sequestration across the county by working with and supporting our residents and communities to act.

What is the starting point?

Data is collated every year by UK Government on Local Authority area and regional greenhouse gas emissions¹³.

The table below provides the total greenhouse gas emissions for Denbighshire since the Strategy baseline year 2019/20.

¹² According to [How Local Authorities Can reduce Emissions and Manage Climate Risk](#), Committee on Climate Change (May, 2012)

¹³ Data sourced from the [UK local authority and regional greenhouse gas emissions national statistics](#), June 2022

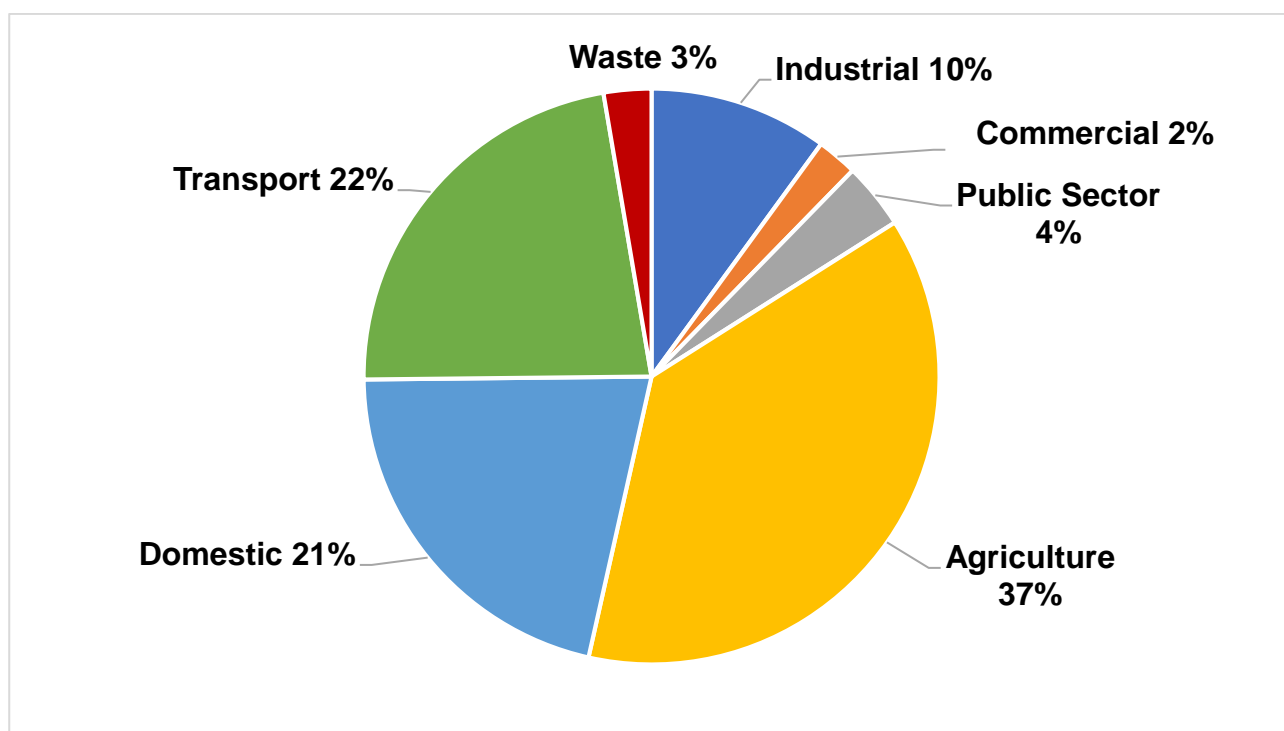
Table 6: Area-wide Greenhouse Gas emissions for Denbighshire since 2019/20¹⁴

Territorial emissions	Year	Total (kt CO2e)	% change from year previous
Denbighshire	2019/20	748.9	n/a baseline
Denbighshire	2021/22	746.8	-1 %

The emissions collated nationally are grouped into the following sources: waste, industrial, commercial, public sector, agriculture, domestic and transport.

The chart below shows the carbon footprint of Denbighshire in 2019/20 and 2022/23 as a pie chart.

Chart 9: Denbighshire Carbon Footprint in 2019/20 (kt CO2e)



¹⁴ This is the total emissions from the following categories: Industry, Commercial, Public Sector, Domestic, Transport, Agriculture and Waste

Land based emissions from Denbighshire are also collated nationally. Table 7 below provides Denbighshire’s net carbon absorption since the Strategy baseline year 2019/20.

Table 7: Area-wide Land Based emissions (sequestration) for Denbighshire since 2019/20¹⁵

Land based emissions (net carbon absorption)	Year	Total tonnes (CO2e)	% change from year previous
Denbighshire	2019/20	-27.1	n/a baseline
Denbighshire	2021/22	-32.1	+ 15.6 %

What changes and actions are the Council taking to use our influence to reduce carbon emissions and increase carbon absorption in Denbighshire?

Changes to Council processes and policies

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the suggestions for processes and policies changes that were identified in 2020 that contribute to reducing carbon emissions and increasing carbon absorption across the County of Denbighshire. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy.

Appendix 3 in the Technical Appendices provides information on the process and policy changes which had broader County influence that were listed in the strategy adopted in 2021 and have now been completed.

The list below highlights some of the priority changes to Council processes and policies that we hope to make in Year 4 to 6 (2024/25 - 2026/27) of delivering this strategy to support the Council to successfully achieve its net carbon zero goal by 2030.

¹⁵ This is the total sequestration from the following categories: Land Use, Land Use Change and Forestry (LULUCF)

This is a dynamic and flexible list; other things may be implemented that do not feature in the graphic below responding to new opportunities.

- Complete a funding options analysis in anticipation of the cessation of Retrofit Grant funding post 2025
- Develop and implement a new Denbighshire Flood Risk Management Strategy for the county
- Application of planning policies within the Local Development Plan 1 and Council's existing Supplementary Planning Guidance which contribute to environmentally responsible development
- Progression of replacement LDP to ensure emerging local priorities around climate change and biodiversity are reflected in local planning policy and decision making
- Ensure colleagues and members are kept up to date with new planning policy, legislation and any guidance is updated e.g. supplementary planning guidance
- Ensure that Officers from School Transport and active travel are engaged in the Strategic Planning and Development Management process by consulting them on new policies, land allocations and development proposals
- Engagement with local businesses to increase understanding in respect of Decarbonisation and work with them to ensure decarbonisation outcomes are achieved
- Review the Agricultural Estate Strategy and explore options around environmental improvement, nature recovery and carbon zero emissions
- Support schools to increase compliance with climate objectives regarding procurement
- When reviewing the Learner Transport Policy, consider improving opportunities for learners to walk to school and reviewing routes to school to enable this
- Align the Placement Commissioning Strategy to the climate and ecological change strategy when updating e.g. to utilise more local foster care, where possible

Actions and projects

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed ideas for projects that were identified in 2020 that support the reduction of carbon

emissions and increase of carbon absorption across the County of Denbighshire. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy. In addition to other actions, we might take responding to new opportunities.

Appendix 2 in the Technical Appendices provides information on the projects and actions listed under 'using our influence' in the strategy adopted in 2021 that have been completed.

The list below provides an overview of the priority actions and projects that have been identified so far that the Council hopes to deliver to maximise on the influence we can have in reducing carbon emissions and increasing carbon absorption across Denbighshire. The delivery of all projects and actions identified is subject to securing the necessary funding. The constraint on Local Government funding is significant and will continue to be in the coming years which will impact on when and how the projects and actions identified can be delivered.

Years 4 to 6 (2024/25 to 2026/27)

- Deliver the New Waste Transfer Station to enable greater source segregation of recyclates
- Work with partners to deliver circular economy activities around Repair, Recycle and Reuse to divert items from becoming waste.
- Implement Absorbent Hygiene Product (AHP) collection service across the county to reduce residual waste from nappies
- Ensure the new Active Travel Plan 2021 onwards, which maps current routes and plans for the future delivery of active travel routes in the county, aligns with the Council's ambitions to tackle climate and ecological change
- Contribute to and implement the Sustainable Transport Plan
- Deliver PPW training in relation to new Chapter 6 of Planning Policy Wales
- Continue work to digitise and channel shift council services, where possible, through implementation of the new CRM
- Look into Clwyd Pension Fund Divestment strategy to decarbonise this by 2030

Years 7 to 9 (2027/28 to 2029/30)

- Delivery of Supplementary Planning Guidance resulting from the new Local Development Plan will support the climate change and biodiversity agenda

Years 4 to 9 (2024/25 to 2029/30)

- Explore options regarding EV charging for Council Housing
- Devise and implement a plan to achieve SAP 75 housing by 2030 (including revising current baseline assessment methods and producing a costs analysis) along with a Targeted Energy Pathway
- Ensure a minimum requirement for on-site renewable energy generation for new building development where possible
- Work collaboratively with partners across the housing sector, through initiatives such as the Low Carbon Hub and Net Zero Group, towards decarbonisation goals
- Enhance and maximise benefit through volunteering and training opportunities for communities and youth groups e.g. green jobs/skills
- Capitalise on link with Barod (and other external organisations), through Working Denbighshire, to include engagement and information on the climate and ecological change agenda
- Continue to expand the public EV charging network as opportunities arise and guidance is provided by WG
- LDP Annual Monitoring Report to be a source of information with regard to climate change and biodiversity
- Work with the Local Planning Authority (LPA) and Planning Policy to ensure clear guidance is provided to prospective developers around carbon reduction and biodiversity within developments. Use the LPA validation process, where reasonable, to ensure compliance (following update to Planning & Policy Wales – Section 6)
- Promote and administer the ECO4 scheme via FCC – energy efficiency in private sector dwellings

- Continue to deliver school streets across the county i.e. a school street outside of a school that is closed to private vehicles for a time period before and after school times
- Work to collate Local Area Energy Plan (LAEP) related data to record contributing low carbon technology (LCTs) installations across the county
- Continue to support households living in Denbighshire who are most likely to experience fuel poverty and those vulnerable to the effects of a cold home through promoting Welsh Governments fuel poverty scheme and administrating Denbighshire's own criteria
- Work with the Council's agricultural tenants, to encourage the management and use of land for the benefit of carbon sequestration, ecological improvement and biodiversity. Look into opportunities to work with a tenant farm to pilot this approach
- Implement a programme of initiatives, working with Welsh Government and the Public Service Board, to raise awareness amongst residents and businesses in Denbighshire of the role they can play in reducing carbon emissions.
- Implement minimum energy standards for non-domestic rented out property (EPC by 2027 on new leases), when funding opportunities arise, and review opportunities for rationalisation where retrofitting is not a viable option
- Look to improve communication and engagement with schools regarding the climate and ecological change agenda e.g. including pertinent matters, issues or opportunities in school newsletters and eco schools programme
- Work with the new Youth Council Learner Voice Champion to explore ways in which the climate and ecological agenda can be embedded into their role
- Support landowners in Denbighshire to encourage the management and use of land for the benefit of carbon absorption (e.g. guidance for the protection and restoration of peat lands)
- Support the delivery of projects under the NWEAB Low Carbon Energy Programme
- Support the development of a Local Area Energy Plan for Denbighshire and subsequent delivery of that plan working with partners
- Work to create a page to signpost residents and businesses to agenda related information and grant opportunities (including commuted sums) in relation to the climate and ecological change agenda

Increasing Our Resilience to the Impacts of Climate Change

Why is this important?

By reducing our carbon emissions and increasing our carbon absorption we can address the root causes of climate change. However, even if emissions are dramatically decreased over the coming decade, further warming is now unavoidable, and adaptation is needed to deal with the climatic changes we are already experiencing and further changes that is now inevitable. Adaptation seeks to reduce the risks posed by climate changes, and to benefit from any associated opportunities where possible. This is important work to increase the Council's and our community's resilience to the impacts of climate change already 'baked in'.

What is the starting point?

UK Government's latest Independent Assessment of UK Climate Risk (CCRA3) was published in 2021¹⁶ which includes a Summary for Wales¹⁷. There are 61 risks and opportunities to Wales from climate change that are included in this assessment, including to business, infrastructure, housing, the natural environment, our health and risks from the impacts of climate change internationally. Of these 61 risks and opportunities, more action was found to be needed in Wales to address 32 of them, with sustaining current action only deemed appropriate in five cases. In total, 26 risks from climate change in Wales have increased in urgency score since the previous Climate Change Risk Assessment (CCRA2) in 2016 and only one risk has decreased in urgency score. There were also some new risks identified in CCRA3 that were not covered in CCRA2.

¹⁶ The UK Government is required, under the 2008 Climate Change Act, to publish a Climate Change Risk Assessment (CCRA) every five years and the latest document can be found here <https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/>

¹⁷ [Summary for Wales \(CCRA3-IA\)](#), June 2021

In summary, risks in Wales that have a high future magnitude score according to the assessment, and where more action is required now to address them, after considering any existing adaptation responses, included the following:

- The impacts of climate change on the natural environment, including terrestrial, freshwater, coastal and marine species, forests and agriculture.
- An increase in the range, quantities and consequences of pests, pathogens and invasive species, negatively affecting terrestrial, freshwater and marine priority habitats species, forestry and agriculture.
- The risk of climate change impacts, especially more frequent flooding and coastal erosion, causing damage to our infrastructure services, including energy, transport, water and Information and Communication Technologies (ICT).
- The impact of extreme temperatures, high winds and lightning on the transport network.
- The impact of increasing high temperatures on people's health and wellbeing.
- Increased severity and frequency of flooding of homes, communities and businesses.
- The impact on coastal businesses due to sea level rise, coastal flooding and erosion.
- Disruption to the delivery of health and social care services due to a greater frequency of extreme weather.
- Damage to our cultural heritage assets as a result of temperature, precipitation, groundwater and landscape changes.
- Impacts internationally that may affect the UK, such as risks to food availability, safety and security, risks to international law and governance from climate change that will affect the UK, international trade routes, public health and the multiplication of risks across systems and geographies.

Work has commenced to analyse climate risk across the county of Denbighshire and for the delivery of the Council's services in particular. This analysis work will assist us to gain a wider understanding of the current climate risk and resilience across the county and Council services.

What changes and actions are the Council taking to increase climate risk resilience?

This is a new area of focus for the Council in this Year 3 Updated version of the strategy and over 20 suggestions for policy and process changes and actions and projects were put forward during the public and service workshops on how the Council can support climate risk resilience as a Council and across the County.

This also builds on approaches committed to under the Greener Denbighshire theme in the Corporate Plan 2022-2027 and [Conwy & Denbighshire Public Services Board Local Well-being Plan \(2023-2028\) for climate adaptation and risk resilience.](#)

Changes to Council processes and policies

- Develop and implement a new Denbighshire Flood Risk Management Strategy for the county
- Review signposting to support communities to identify potential climate risk resilience projects and funding

Actions and projects

Years 4 to 6 (2024/25 to 2026/27)

- Build on exploratory work conducted in 2023/24 around social care climate resilience to increase knowledge and implement improvements to resilience of services
- Continue to deliver the Moorland Management and Wildfire Prevention Project

Years 4 to 9 (2024/25 to 2029/30)

- Engage with community groups to understand local risk and adaption need across the county

- Deliver improvement and expansion projects for Denbighshire County Council allotments
- To deliver coastal zone management on Denbighshire's natural coastline and work to include: sand dune restoration, the Little Tern Protection Scheme and habitat creation
- Capitalise on opportunities that arise to contribute to better land use across the county for multiple objectives e.g. natural flood risk management via tree planting, matrix habitat creation, nature and climate related education opportunities etc.
- Collaborate with partners on the Clwyd River Catchment Forum, (a pilot project under the NRW Area Statement) which is working to improve the water quality, biodiversity and flood resilience of the River Clwyd
- Look to provide signposting to information about climate anxiety support for residents, pupils, and staff (possibly to include climate anxiety training for key staff who work with vulnerable people)
- Support communities to identify potential climate risk resilience projects and source funding
- Work alongside partners to undertake a climate risk assessment for the county and support local communities to better understand local risk resilience and adaptation need

Ecologically Positive Council by 2030

What is our goal?

Our goal is to protect, manage and restore our land as well as create new spaces for nature so that the ecosystems¹⁸ in Denbighshire are diverse, connected, big in scale and extent, in a healthy condition and adaptable and thus not only maintains biodiversity but enhances it. This is our Ecologically Positive Council goal.

Opportunities for Ecologically Positive work contributing to our carbon absorption requirements in our Net Carbon Zero Council goal and vice versa will be both taken and maximised upon.

What is our starting point?




Available data for species richness across Denbighshire has been mapped onto Council owned and operated land to give us an idea about our starting point for the Council's biodiversity value.

Biodiversity is vast, complex and interconnected and as such any measure for biodiversity value is a pointer only.




The table below provides you with information on the different habitat types that are included in this species richness measure. The most species rich habitat is listed first, and the least species rich habitat is listed last.





¹⁸ An ecosystem is all the plants and animals that live in a particular area together with the complex relationship that exists between them and their environment.


Table 7: Different habitat types

Habitat name	Species richness score ¹⁹	Photo example
Calcareous Grassland – unimproved and semi-improved	43.02	
Broadleaved and Yew Woodland - Mixed, Part and Part Montane habitats	20.91	
Neutral grassland – unimproved and semi-improved	20.44	

¹⁹ This score is the average total number of plant species per 200m² plot normally present within that habitat type. Scientific analysis has shown that the diversity of animal species increases in areas of land with greater plant species diversity.

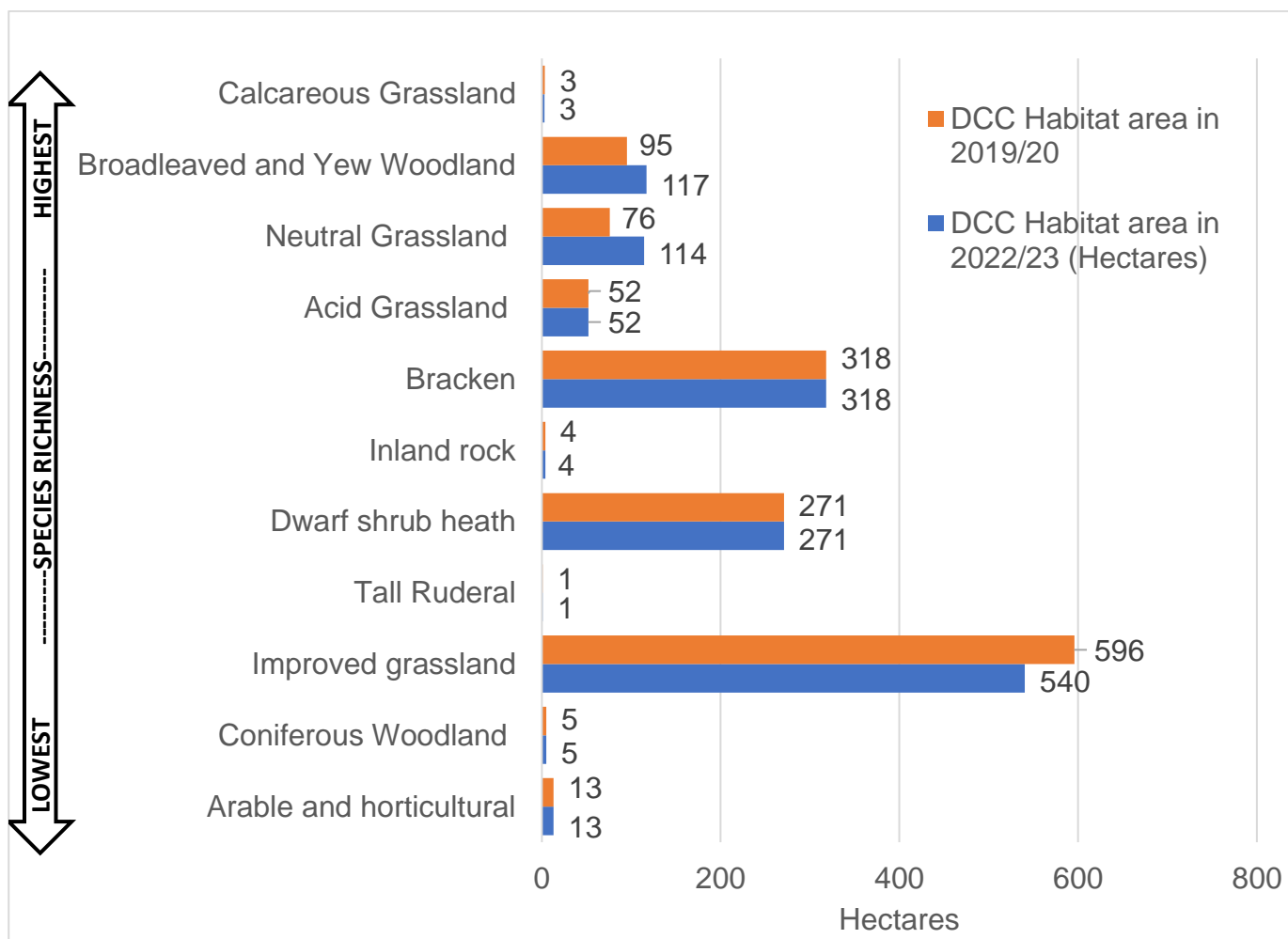
Habitat name	Species richness score ¹⁹	Photo example
Acid Grassland – unimproved and semi-improved	19.58	
Bracken	19.29	
Inland rock	16.74	

Habitat name	Species richness score ¹⁹	Photo example
Dwarf Shrub Heath	15.87	
Tall Ruderal	15.87	
Improved Grassland	14.28	
Coniferous Woodland	14.05	

Habitat name	Species richness score ¹⁹	Photo example
Arable and horticultural	10.25	

The graph below describes the amount of land the Council owns and operates in each habitat type of varying species richness in 2019/20 compared to 2022/23.

Chart 10: Amount of land Denbighshire County Council own and operate in each habitat type of varying species richness in 2019/20 compared to 2022/23



In 2019/20 62% of Council owned and operated land is in the lowest categories of species richness. In 2022/23 this is now 58%.

In 2019/20 38% of Council owned and operated land is in the highest categories of species richness. In 2022/23 this is now 42%.

In addition, there are a number of important habitats which support a wide range of species which the Council is fortunate to have in its ownership but are not included in our species richness baseline due to limitations in the habitat categories available in the measurement methodology. These include rivers, streams, and the important dune systems and shingle habitats on Denbighshire’s coastline which are home to a variety of

rare and specialised plants and animals. These include the last colony of Little Tern (species of bird) in Wales, along with Sand Lizard and Natterjack Toad which were reintroduced here after becoming extinct in Wales.

Where do we want to get to?

To achieve our Ecologically Positive goal, the Council needs to increase the percentage of our owned and operated land that has a higher species richness.

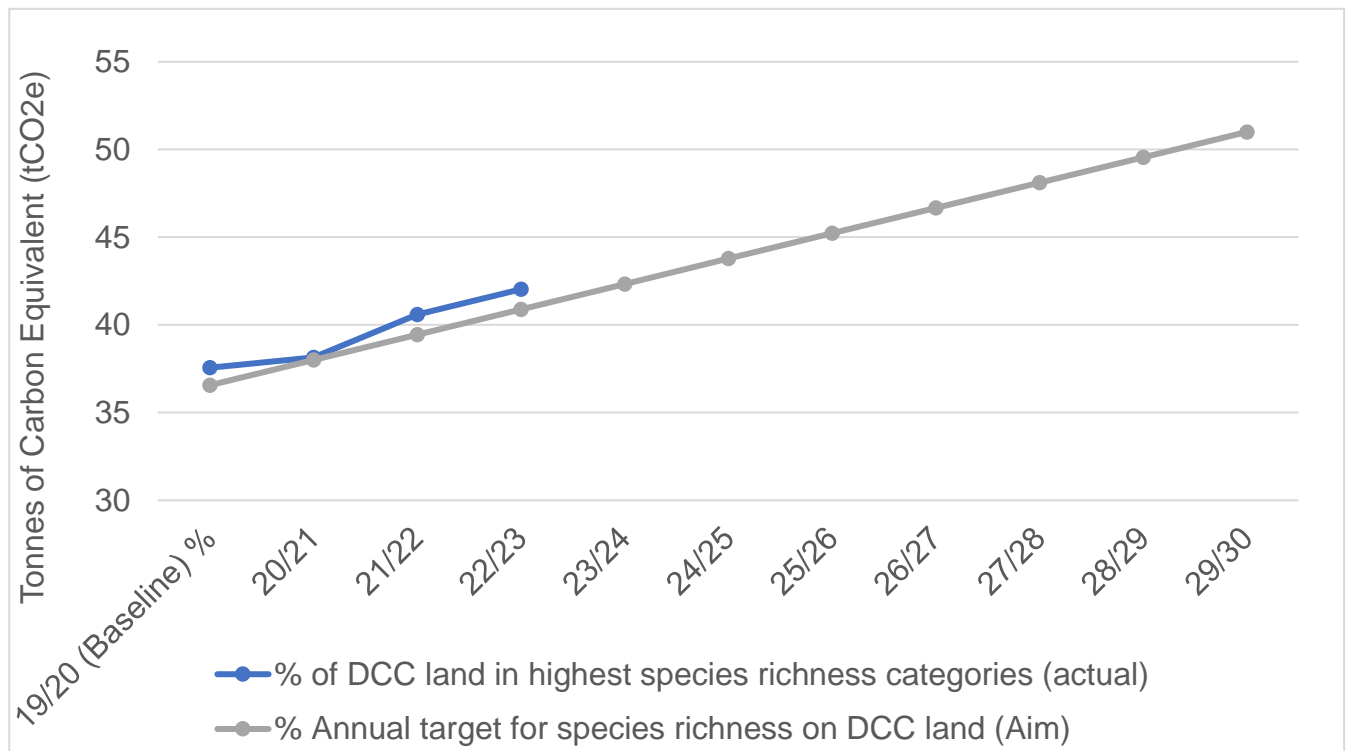
This can be achieved by restoring and changing how we manage land that we currently own and operate to increase species diversity, and by increasing the land ownership therefore creating new spaces (ecological niches) and connected habitat for nature.

The Council's percentage of owned and operated land in the lowest categories of species richness should be lower than the percentage of Council owned and operated land in the highest categories of species richness for the Council to achieve its Ecologically Positive goal. The table below describes the percentage change expected by 2030 and our progress to date. It shows actual figures for our most recent reporting period, in 2022/23, as well as what we expect to achieve by Year 6 (2026/27) of the 9-year programme. The data shows the council is on track to achieve our target, should we continue with the positive changes and progress made so far to increase the biodiversity of council owned and operated land.

Table 8: Percentage change in habitats of lowest and highest species richness

Species richness categories	Starting Point	Actual % in Year 3 (2022/23)	Projected % in Year 6 (2026/27)	2030 end goal
Lowest categories of species richness	62%	Reduced to 58% or lower	Reduce to 53.3% or lower	Reduce to below 49% or lower
Highest categories of species richness	38%	Increased to 42.0% or higher	Increase to 46.7% or higher	Increase to above 51% or higher

Chart 10: Denbighshire Species Richness Annual Progress up to 2022/23 and annual target



A postcard from the future is included below as a way of bringing these figures to life through story telling- providing an example of how the Council might have gone about achieving its 2030 target.

Postcard 4: Ecological Positivity



Image by Postcard from the
Future competition winner, Lily,
Ysgol Caer Drewyn



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Dear 2020 Council, Year 2030 here! Not wanting to give you spoilers but here's some of the headlines on how you've achieved ecological positivity...

It's now second nature for officers to review the biodiversity value and impact of every project, intervention or activity the Council undertakes and to deliver the activity in a way that provides a positive impact for ecology. Every opportunity is taken to do no harm to biodiversity in Council operations but where harm is unavoidable plans are made and delivered which leaves biodiversity in a better state than when we started.

Through collaborative efforts across departments improved grassland habitats (which support a lower species richness) have been converted into neutral grassland (which support a higher species richness) increasing biodiversity in the county. This has been achieved by expansive changes in cutting regimes to allow for natural regeneration as well as deliberative sowing of meadow / wildflower seeds.

For the greatest combined benefit, the hectares of broadleaf and mixed woodland owned by the Council has increased. The Council over the 9 years has converted existing land of low species richness, and bought new land, turning it into carbon sinks and wildlife havens via carefully selected tree planting including elements of species rich grassland.

The Council has actively made space for nature, adopting a natural regeneration approach free from mechanical intervention developing sites into ecological exemplars. Core aims in this work to reconnect people with nature have been achieved through opportunities for recreational access and the work has inspired a new generation of naturalists who understand the importance of our natural environment, and how to protect it. University students visit to learn about the abundant biodiversity that surrounds.

What changes and actions will help us get there?

Changes to Council processes and policies

To achieve our ecologically positive goal by 2030 will require the Council to adjust how it goes about delivering the wide range of work and tasks required of us by Welsh Government, by our partners and by our communities.

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the 25 suggestions for processes and policies changes were identified in 2020 to contribute to protecting and improving biodiversity. Our aim is to implement as much as we can of these working over the remaining 6 years of the strategy.

Appendix 4 in the Technical Appendices provides information on the process and policy changes listed in the strategy adopted in 2021 that have been completed.

The list below highlights some of the priority changes to Council processes and policies that we hope to make in Year 4 to 6 (2024/25 - 2026/27) of delivering this strategy to support the Council to successfully achieve its ecologically goal by 2030.

This is a dynamic and flexible list; other things may be implemented that do not feature in the graphic below responding to new opportunities.

- Explore the possibility of a Council wide 'Asset Management' policy/programme of all our green open spaces (to include grassland management)
- Continue to embed standard operating procedures around spraying and strimming and explore reducing the use of herbicides
- Embed the ecological compliance audit for planning applications to ensure mitigation, compensation and enhancement is actually installed
- Review internal process to investigate how best to communicate and capture carbon reduction and ecologically positive contributions in projects at start-up stage, including to review how contributions have been implemented by Projects through internal evaluation and through monitoring Project Closure Reports
- Develop Housing tree and hedgerow policy (and work with Countryside and Highways colleagues to ensure aligned with corporate policy)

Actions and projects

Becoming ecologically positive will require the Council to continue to build on existing programmes of activity started under the Climate and Ecological Change Programme and the Greener Denbighshire Theme of our Corporate Plan, in addition to delivering new projects and activity.

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the over 40 ideas for projects to protect and improve biodiversity were identified in 2020. Our aim is to implement as much as we can of those over the remaining 6 years of the strategy. In addition to other actions, we might take responding to new opportunities.

Appendix 4 in the Technical Appendices provides information on the projects and actions listed in the strategy adopted in 2021 that have been completed.

The list below provides an overview of the priority actions and projects that have been identified so far that the Council hopes to deliver which will protect and improve biodiversity. The delivery of all projects and actions identified is subject to securing the necessary funding. The constraint on Local Government funding is significant and will continue to be in the coming years which will impact on when and how the projects and actions identified can be delivered.

Years 4 to 6 (2024/25 to 2026/27)

- Reconsider the grounds management at care homes with a view to save money, improve biodiversity and enhance citizen well-being (in short term and long-term when improvements are made to assets)

Years 4 to 9 (2024/25 to 2029/30)

- Work to include nature and/or allotment space on new social housing developments
- Review existing grounds maintenance and develop to align with methods for increasing biodiversity and carbon sequestration on Council Housing land
- Explore opportunities for biodiversity and carbon sequestration opportunities on council Housing buildings e.g. youth centres, green roofs and garages etc

- Continue the wildflower meadow (non-cut) project on council owned and managed areas
- Provide Biodiversity Improvement opportunities via Team Away days as requested by Services
- Implement a programme of initiatives and engagement with schools across the County to share learning and resources on this agenda and encourage positive behaviour change
- Continue to work with schools to identify land to plant trees and introduce wildflowers for biodiversity improvement and carbon sequestration
- Work to create a page to signpost residents and businesses to agenda related information and grant opportunities (including commuted sums) in relation to the climate and ecological change agenda

Supporting Natures Recovery across Denbighshire – Using Our Influence

Why is this important?

Since we declared a climate change and ecological emergency in 2019, we have taken onboard feedback and evidence highlighting the need for us to use our influence to support natures recovery across the county rather than just focusing on council owned and operated land alone. This is important as to bring about resilient ecosystems the Council, its partners and communities need to take a landscape view so that opportunities to create spaces for nature that are diverse, connected, big in scale and extent, in a healthy condition and adaptable are taken. By working to achieve our Ecologically Positive Council 2030 goal we hope to influence action to enhance biodiversity across the county by working with and supporting our residents and communities to act.

What's the starting point?

Detailed statistics for the state of nature and our habitats across the county of Denbighshire is difficult to quantify and detail statistically. However, information from reports such as Natural Resources Wales's latest [North East Wales Area Statement](#) and [Biodiversity in Denbighshire](#), indicate that Denbighshire is seen as an impoverished county with regards to connectivity and native grasslands, with many habitats and wildlife now in decline and in need of protection and help if they are to survive.

The Council has begun to spatially map the connected corridors for nature across the County to enable us to capture the visual change across the county. Image 1 below shows the extent of these connected corridors pre-2018. It shows the range of grasslands scattered across Northeast Wales and illustrates how fragmented many of Denbighshire's grasslands were at this time.

In contrast, Image 2 below illustrates how Denbighshire looks in 2023 in terms of its grassland distribution and connected corridors for nature. The impact of Denbighshire County Council's work across two main projects is clearly evident. The rural road verge grassland policy was implemented in 20?? which sees the rural road network undergo a

'biodiversity cut' once a year and connects the 11 established Roadside Nature Reserves together. This network covers 78% of the total road network in the county and means connected corridors for nature across Denbighshire have been increased to 1,820km. The addition of the Wildflower Meadow Project has seen over 120 urban grassland sites (approximately 70 acres) now also being cut less frequently for the benefit of biodiversity and resident wellbeing. These sites bridge the gap within urban areas, that the road verge network does not reach. They act as stepping stones across our urban environments and help facilitate the movement of wildlife across our urban areas, back onto the wider rural road verge network.

This larger more connected habitat now provides a connective spine down the centre of Northeast Wales. Our colleagues in Flintshire and Conwy have now also begun to convert their rural networks over to the same management and continued to build on their urban meadow projects. By working together with our neighbours, we will be able to increase connective corridors for nature across the whole Northeast area of Wales.

Image 1 – Denbighshire grassland distribution and connected corridors for nature pre-2018

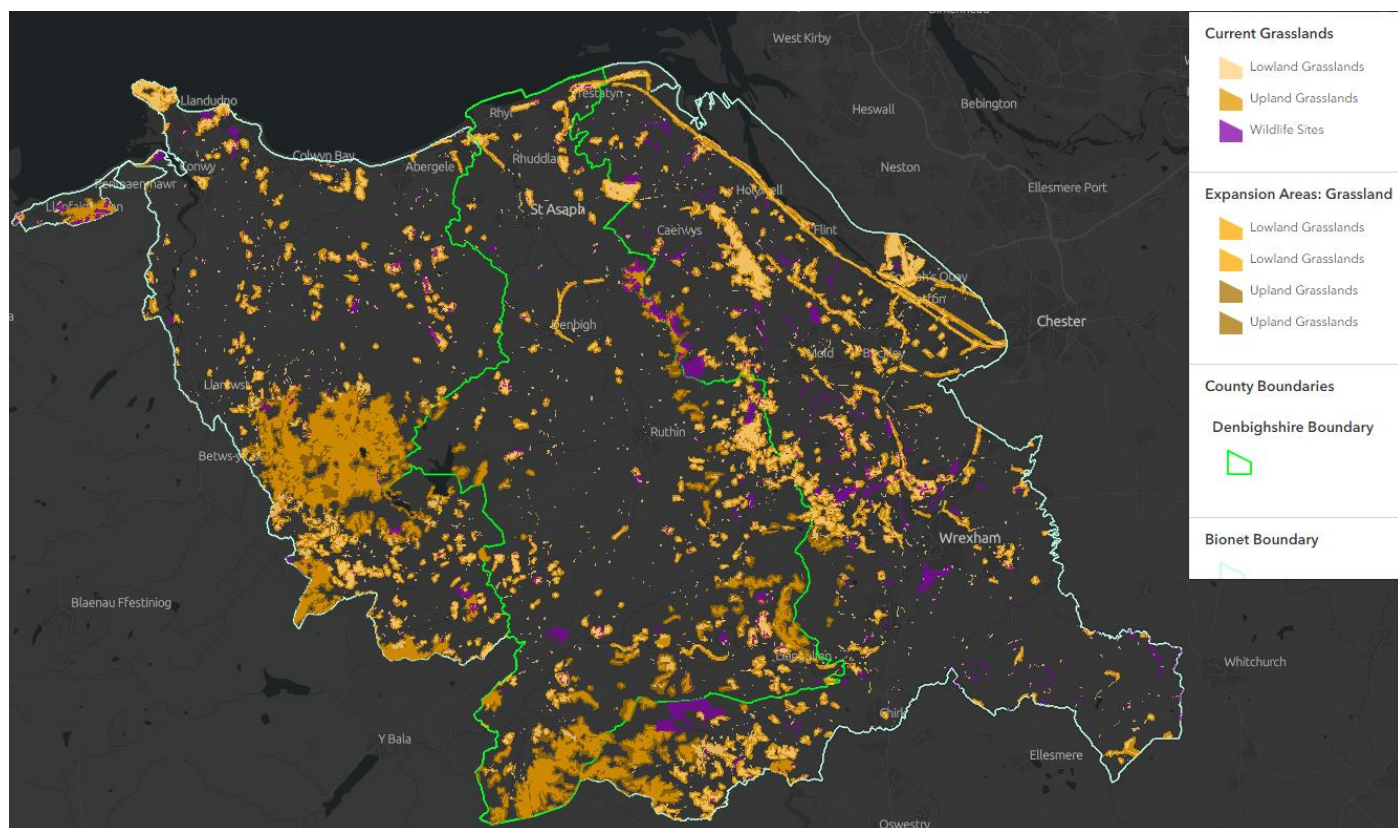
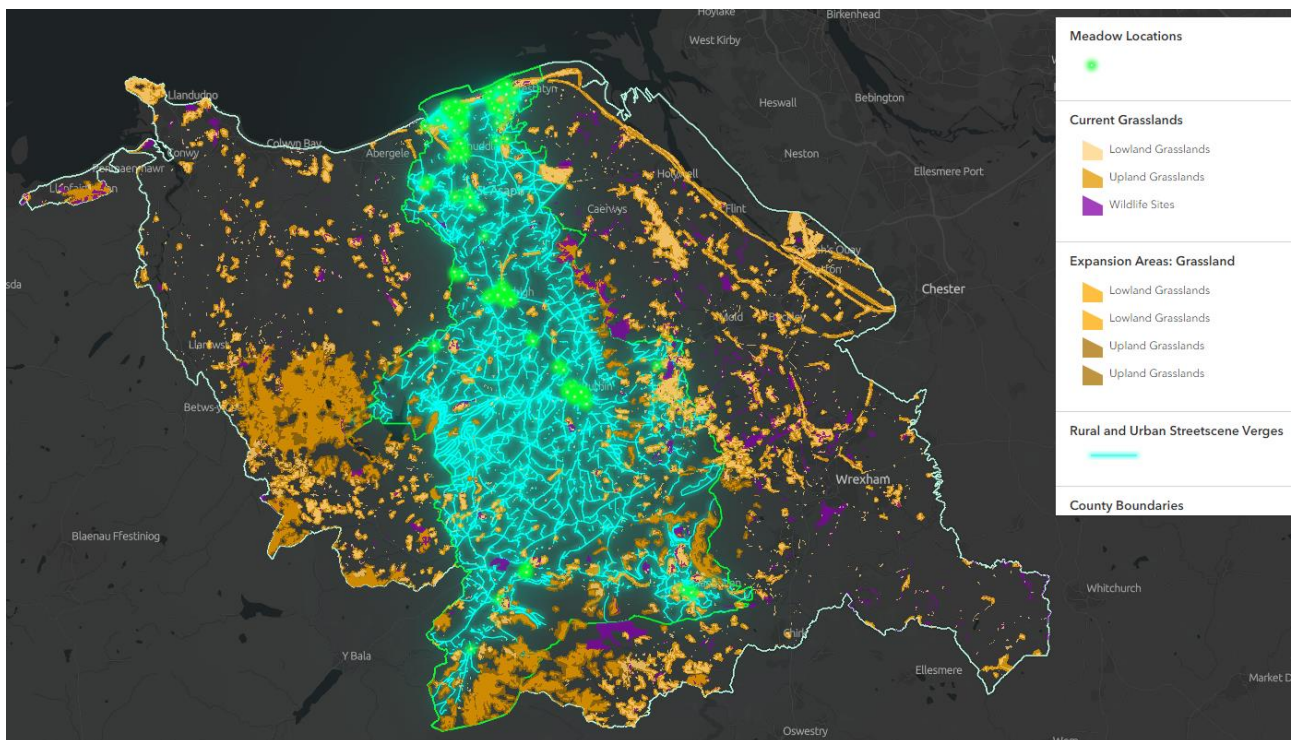


Image 2 – Denbighshire grassland distribution and connected corridors for nature in 2023



What changes and actions are the Council taking to use our influence to support natures recovery across Denbighshire?

Changes to Council processes and policies

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed the suggestions for processes and policies changes that were identified in 2020 that contribute to supporting natures recovery across the County of Denbighshire. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy.

Appendix 5 in the Technical Appendices provides information on the process and policy changes which had broader County influence that were listed in the strategy adopted in 2021 and have now been completed.

The list below highlights some of the priority changes to Council processes and policies that we hope to make in Year 4 to 6 (2024/25 - 2026/27) of delivering this strategy to support the Council to successfully achieve its net carbon zero goal by 2030.

This is a dynamic and flexible list; other things may be implemented that do not feature in the graphic below responding to new opportunities.

- Ensure Ash Die Back Policies around replacement are supportive of increasing tree stock of native provenance
- Progression of replacement LDP to ensure emerging local priorities around climate change and biodiversity are reflected in local planning policy and decision making
- Application of planning policies within the Local Development Plan 1 and Council's existing Supplementary Planning Guidance which contribute to environmentally responsible development
- Ensure colleagues and members are kept up to date with new planning policy, legislation and any guidance is updated e.g. supplementary planning guidance
- Utilise community benefits /Well-being impacts/SPPP Act in Council contracts to support nature recovery and biodiversity
- Identify the Council officers who procure on a regular basis to target communication and training as to the Climate and Ecological Change agenda and the contribution that environmentally responsible procurement can make
- Review the Agricultural Estate Strategy and explore options around environmental improvement, nature recovery and carbon zero emissions

Actions and projects

In this Year 3 Updated version of the strategy, we have built upon, reviewed and refreshed ideas for projects that were identified in 2020 that support nature's recovery across the County of Denbighshire. Our aim is to implement as many of these as we can over the remaining 6 years of the strategy. In addition to other actions, we might take responding to new opportunities.

Appendix 5 in the Technical Appendices provides information on the projects and actions listed under 'using our influence' in the strategy adopted in 2021 that have been completed.

The list below provides an overview of the priority actions and projects that have been identified so far that the Council hopes to deliver to maximise on the influence we can have in bringing about nature's recovery across Denbighshire. The delivery of all projects and actions identified is subject to securing the necessary funding. The constraint on Local Government funding is significant and will continue to be in the coming years which will impact on when and how the projects and actions identified can be delivered.

Years 4 to 6 (2024/25 to 2026/27)

- Consider ways to increase biodiversity within supply chains whilst carrying out the North Wales Domiciliary Care Framework review
- Deliver PPW training in relation to new Chapter 6 of Planning Policy Wales
- Utilise community benefits /Well-being impacts/SPPP Act in Council contracts to support nature recovery and biodiversity

Years 4 to 9 (2024/25 to 2029/30)

- Deliver the annual programme of Ash Dieback work
- LDP Annual Monitoring Report to be a source of information with regard to climate change and biodiversity
- Capitalise on opportunities that arise to contribute to better land use across the county for multiple objectives e.g. natural flood risk management via tree planting, matrix habitat creation, nature and climate related education opportunities etc
- Work with the Local Planning Authority (LPA) and Planning Policy to ensure clear guidance is provided to prospective developers around carbon reduction and biodiversity within developments. Use the LPA validation process, where reasonable, to ensure compliance (following update to Planning & Policy Wales – Section 6)
- Delivery of Supplementary Planning Guidance resulting from the new Local Development Plan will support the climate change and biodiversity agenda

- Create and promote volunteer opportunities within Countryside Services for the public to contribute to this agenda and link to green skills/jobs
- Collaborate with partners on the Clwyd River Catchment Forum, (a pilot project under the NRW Area Statement) which is working to improve the water quality, biodiversity and flood resilience of the River Clwyd
- Identify the Council officers who procure on a regular basis to target communication and training as to the Climate and Ecological Change agenda and the contribution that environmentally responsible procurement can make
- Implement a programme of initiatives, working with Welsh Government and the Public Service Board, to raise awareness amongst residents and businesses in Denbighshire of the role they can play in improving biodiversity
- Support landowners in Denbighshire to encourage the management and use of land for the benefit of ecological improvement and biodiversity
- Work with the Council's agricultural tenants, to encourage the management and use of land for the benefit of carbon sequestration, ecological improvement and biodiversity. Look into opportunities to work with one tenant farm to pilot this approach
- Look to improve communication and engagement with schools regarding the climate and ecological change agenda e.g. including pertinent matters, issues or opportunities in school newsletters and eco schools programme
- Work with the new Youth Council Learner Voice Champion to explore ways in which the climate and ecological agenda can be embedded into their role

Financial strategy to support strategy and action plan

Like Local Authorities across Wales, the Council's financial position is currently incredibly challenging, and the need for significant budget savings is unprecedented.

Funding cuts over a sustained period mean that we have a lot less money to invest in services now than we have in the past. It is estimated that delivering day to day services in 2024/25 – including social services, waste collection and schools, will cost an extra £24.5m due to price increases, inflation, and pressure on demand. The Council must therefore find additional money through savings and efficiencies, charges for services, increases in Council Tax or by reducing or cutting services.

It is in this context that the Year 3 Updated strategy is being adopted. Despite the difficult situation we are faced with, this council has a clear ambition to make our contribution to tackle the climate change and ecological emergency. This document sets out the ambitions to become net carbon zero and ecologically positive and the range of changes and actions the Council could do to achieve those goals, along with work to improve climate resilience and using our influence to bring about climate action and nature recovery across the County.

Some of changes and actions will require capital investment, others revenue funding, and some may be delivered at no additional cost. All of them will require staff availability to develop and deliver the initiatives at a time when capacity will become increasingly constrained. The delivery of all projects and actions identified in this strategy is subject to securing the necessary funding. The constraint on Local Government funding is significant and will continue to be in the coming years which will impact on when and how the projects and actions identified can be delivered. For 2024/25 and 2025/26 initiatives that save money as well as save carbon or improve biodiversity will be prioritised. This may need performance plateaus for these years.

High level financial modelling has been undertaken on capital activity required to decarbonise fleet, buildings and increase carbon absorption to provide an estimated and indicative capital cost to deliver this strategy over the remaining 6 years (2023/24-2029/30). That work indicates a capital cost of at least £48 million pounds to deliver the projects needed to achieve all that we'd like.

The investment figure to achieve net carbon zero and ecologically positive is a large sum, and the council cannot provide all of this money itself. To deliver the projects needed to achieve all that we'd like to will be reliant on grants from the Welsh Government, National Government and supporting bodies along with maximising on opportunities for community and commercial based financing mechanisms. It is expected that opportunities for securing external grant funding over the remaining 6 years will be maximised upon, building on our success over the first 3 years of the strategy where 36% of total capital expenditure has been covered by external grant.

To pay for the capital investment identified, we will need to commit revenue budget and cash to this priority. It is likely that a proportion of the investment required would be generated through prudential borrowing.

We have measures in place to ensure all individual capital investment decisions we take are based on robust business cases and that the overall debt financing position is carefully monitored and remains affordable and sustainable. Our revenue budget plans and processes are well established and will enable us to manage affordability.

Affordability is the greatest risk in the Council being able to achieve its net carbon zero and ecologically positive goals and ambitions around climate risk resilience and area wide climate action and nature recovery. However, this Council remains committed to making our contribution to tackling climate and ecological change wherever and whenever we are able.

How progress will be monitored

This strategy will be delivered as a programme of activity, coordinated centrally with input and effort by officers from across the Council's service areas working with our partners where applicable.

The person accountable for achieving these goals is the Council's Corporate Director - Governance and Business as operational Sponsor for the Programme of work. Political steer is provided by the Lead Member for Environment and Transport and the cross-party Climate Change and Ecological Emergency political working group act as an advisory group for this agenda meeting quarterly.

The Council will calculate its carbon emissions, its carbon absorption and the species richness on its land in April- July each year to see how the Council performed on these Net Carbon Zero and Ecologically Positive metrics in the previous financial year (April – March). The Council will submit its carbon emissions and carbon adsorption data to Welsh Government each year in September as part of the new Welsh Public Sector Greenhouse Gas Reporting Regime.

Progress in achieving the goals set out in this Climate and Ecological Change Strategy will be monitored by the Greener Denbighshire Board. The Greener Denbighshire Board is chaired by the Corporate Director - Governance and Business and made up of Lead Cabinet members for this agenda and key Heads of Service whose service areas contribute to the delivery of the strategy.

Key performance measures and programme highlights will be integrated into the Corporate Plan performance report, which is scrutinised quarterly through SLT, Cabinet and Scrutiny, and annually by Council.

A 12-month review paper will be taken to Full Council each year highlighting progress made and next steps referring back to the Council's Climate Emergency Declaration.

The Council's progress on achieving the Net Carbon Zero and Ecologically Positive 2030 goals can also be scrutinised by Internal Audit and Scrutiny Committees at appropriate points over the remaining 6 years of the Strategy and at the discretion of the Chief Internal Auditor and Scrutiny Chairs and Vice Chairs.

The strategy document will be formally reviewed and refreshed every 3 years up until 2030 with the next review taking place in 2026/27.

How we will share our learning

Climate and ecological change is the globally defining challenge of our time. It will require everyone to contribute to its solution- pooling effort, knowledge and resources.

The Council's approach to achieving Net Carbon Zero and Ecologically Positive Council and increasing climate risk resilience is open and collaborative. The Council looks forward to learning from others, maximising on opportunities together as well as sharing our experience over the remaining 6 years to 2030.

Denbighshire County Council will continue to work with our Public Sector Partners via the Public Service Board²⁰, including Betsi Cadwaladr University Health Board, on our collective 'Well-being' priority²¹ –as listed in [Local Well-being Plan \(2023-2028\)](#), sharing learning from our efforts in achieving Net Carbon Zero and Ecologically Positive Council goals, along with increasing our climate risk resilience, and seeking advice from others.

The Council will share its learning with City, Town and Community Council's within Denbighshire. Working with Local Government partners via the Local Government Climate Strategy Panel, and other opportunities, the Council will look to influence Welsh Government to simplify and make consistent the existing policy and legislative landscape, facilitate the increased impact by working at scale, support the increased engagement and behaviour change work with communities and provide resourcing which reflects the magnitude of the climate emergency we are all facing.

Latest news, advice and opportunities to get involved will be posted on the Council's [corporate website](#) and the Council Consultation portal. We will issue an e-newsletter once a year updating on the Council's work on this agenda and we aim to host a public engagement event once a year. We will share our learning with businesses across

²⁰ The Public Service Board (PSB) is a partnership of public service agencies who work together to improve local services. [A list of current Conwy and Denbighshire PSB partners can be found on the PSB website.](#)

²¹ Communities are happier, healthier and more resilient in the face of challenges, such as the Climate Change and Nature Emergency, or the rising cost of living.

Denbighshire via our business communication channels managed by the Council's Economic and Business Development Team.

Members of the public can register for the climate and ecological change sub group of the Council's [Y Panel](#) and take part in online discussion forum on climate and ecological change themes.

Technical Appendices

Appendix 1 – Further information on areas where achieving the required target is experiencing challenge

For those areas where the required target has proven to be a challenge, the below tables explain the predicted gap between the known and targeted pathways and the reasons for this expected gap.

Carbon Emissions from Buildings (non-domestic)

The below table illustrates the expected target gap for carbon emission reduction from our non-domestic buildings. The required target of a 60% reduction in this source is going to be difficult to achieve due to the reasons outlined. These include the combined effects of timescales, budget, expertise restraints and limited decarbonisation of the electricity network meaning a reduction of around 330 tonnes CO₂e per annum is more likely to be achieved, instead of the 660 tonnes CO₂e target. This does not mean we are not aiming to achieve what we can, however it is sensible to highlight the expected shortfall now, based on the current trajectory.

Buildings (non-domestic)	
2030 ambition	60% (-660 tCO ₂ e pa) reduction target
Known reduction pathway	30% (-330 tCO ₂ e) expected target
Constraints & dependencies (explaining gap between 2030 ambition and known reduction pathway)	Availability of capability and capacity within the supply chain to design and deliver schemes. Price of electricity Development of green hydrogen technology Decarbonisation of national grid Local Government funding settlement

Carbon Emissions from Staff commuting

The below table highlights the expected challenges in achieving our emission reduction target from staff commuting. The required target of a 20% reduction in this source is currently looking difficult to achieve due to the reasons outlined. Recent feedback has highlighted that more staff than thought in initial analysis require to commute into the office. This data is also based on estimated service level commuting data and, not actual figures, with a +/- 25% margin for error. Further investigation to enable actual data to be gathered could show this target is more achievable, but further analysis is required before the expected target can be known. This does not mean we are not aiming to achieve what we can, however it is sensible to highlight the expected shortfall now, based on the current trajectory.

Staff commuting	
2030 ambition	20% target (-1,478 tCO ₂ e)
Known reduction pathway	Unchanged subject to further analysis
Constraints & dependencies (explaining gap between 2030 ambition and known reduction pathway)	<p>Office based staff proportion higher than estimated.</p> <p>Estimated data</p> <p>Limited data regarding staff working patterns.</p> <p>Further analysis required to better understand service and team level office base needs.</p>

Carbon absorption from land-use (woodland and grassland)

The below table highlights the expected challenges in achieving our carbon sequestration (absorption) increase target. The required target of a 203% increase in this source is going to be difficult to achieve due to the reasons outlined. These include the availability of suitable land within the council portfolio, or on the open market, and the budget available to secure the amount of additional land this would require along with any relevant analysis work to inform our carbon stock. The subsequent expected carbon absorption increase is therefore likely to be closer to a 67% increase, based on the maturity adjusted emission factor for any new woodland created. This is due to the fact there is currently no funding available to increase council owned land for this purpose, and there is limited council owned land remaining which is suitable. This does not mean we are not aiming to achieve what we can and continue to look for suitable opportunities, both internally and externally across the county for this purpose, however it is sensible to highlight the expected shortfall now, based on the current trajectory.

Carbon sequestration	
2030 ambition	+203% target (7,329 tCO ₂ e)
Known reduction pathway	+59% (3,849 tCO ₂ e) Note: Maturity adjusted figure
Constraints & dependencies (explaining gap between 2030 ambition and known reduction pathway)	<p>Appropriate land available for purchase</p> <p>Amount of available land within DCC ownership suitable for further tree planting</p> <p>Available budget/funding to purchase land.</p> <p>Available budget for analysis work e.g., to gather carbon absorption data for urban/individual tree assets.</p>

Appendix 2 – Completed Process/Policy Changes and Projects/Activities contributing to the achievement of the Net Carbon Zero Goal

The following process and policy changes and projects and activities that were identified in 2020 to contribute to reducing carbon or/and increasing carbon absorption and listed in the strategy adopted in 2021 have been completed:

- Convert 3 of our waste vehicles to Electric vehicles
- Re-launch recycling in civic buildings and replace bins at Council sites so it is a source segregated recycled waste collection
- Work to reduce plastics in Council offices
- Deliver improvement project for increasing tonnage of waste re-use or recycled that is generated from delivering the various Highways and Street Scene frontline service functions
- Complete our 7 year LED Street lighting project
- Move as far forward and as fast as possible in going paperless e.g. electronic case bundling, electronic signing and sealing of contracts, electronic paper packs for democratic meetings
- In consultation with staff and the unions, work to include in every member of staff Job Description their responsibility around climate and ecological change
- Investigate how through the Social Partnership & Public Procurement (Wales) Act, sustainability including biodiversity protection and improvement could be applied to tenders
- Develop and secure AMG adoption of new Asset Management Strategy
- Through engagement and communication ensure service-based objectives align with the corporate ambition to become Net Carbon Zero and reduce supply chain emissions
- Via our role on the Clwyd Pension Fund Committee, encourage the Fund to identify climate change as a financial risk, to measure and understand its carbon exposure within its investment portfolio and to set agreed Carbon reduction targets

- Implement the Council's change in constitution to have regard to tackling climate and ecological change, including changes to business case templates and introduction of whole life costing
- Work to standardise the Recycling and Waste approach across all schools and Council owned sites include provision of wide range of recycling

Appendix 3- Completed Process/Policy Changes and Projects/Activities contributing to reducing carbon emissions and increasing carbon absorption across Denbighshire - Using Our Influence

The following process and policy changes and projects and activities that were identified in 2020 to contribute to reducing carbon or/and increasing carbon absorption which had broader County influence and listed in the strategy adopted in 2021 have been completed:

- Implement Community Benefits Hub
- Create an online portal to capture and report on the Community Benefit of contracts including measures around this agenda
- Delivery of the replacement LDP which takes forward local priorities for land use planning within the national policy framework. The replacement LDP will ensure emerging local priorities around climate change and biodiversity are reflected in local planning
- Develop and propose a standard for eco build in relation to new buildings and major refurbishments (minimising consumption of energy, waste and water and facilitating low carbon travel) for consideration and decision by Cabinet by September 2021
- Completion of Carbon Literacy training by all councillors and managers and creation of e-learn module on carbon literacy themes for all staff
- Engage with City, Town and Community Councils on reducing carbon and increasing carbon absorption via the review and update of the City, Town and Community Council Charter

Appendix 4- Completed Process/Policy Changes and Projects/Activities contributing to the achievement of the Ecologically Positive Goal

The following process and policy changes and projects and activities that were identified in 2020 to contribute to improving the resilience of ecosystems on Denbighshire County Council owned land and listed in the strategy adopted in 2021 have been completed:

- Tender grounds maintenance contract for Housing Estates using a specification which improves biodiversity e.g. leaving areas of long grass for species diversity.
- Introduce a new outdoor light replacement policy to protect bats and insects - a warm white spectrum (<2700Kelvin) and luminaires feature peak wavelengths higher than 550nm
- PLANT Project: Urban Tree Planting
- To maintain, enhance, protect and preserve Denbighshire's 'living assets' for future generations
- ENRaW Well Connected Providing Opportunities for All
- Deliver the Picturesque Landscape project to fence off areas and promote the return of woodland
- Implement the Council's change in constitution to have regard to tackling climate and ecological change, including changes to business case templates and introduction of whole life costing
- Investigate how through the Social Partnership & Public Procurement (Wales) Act, sustainability including biodiversity protection and improvement could be applied to tenders
- Develop and secure AMG adoption of new Asset Management Strategy

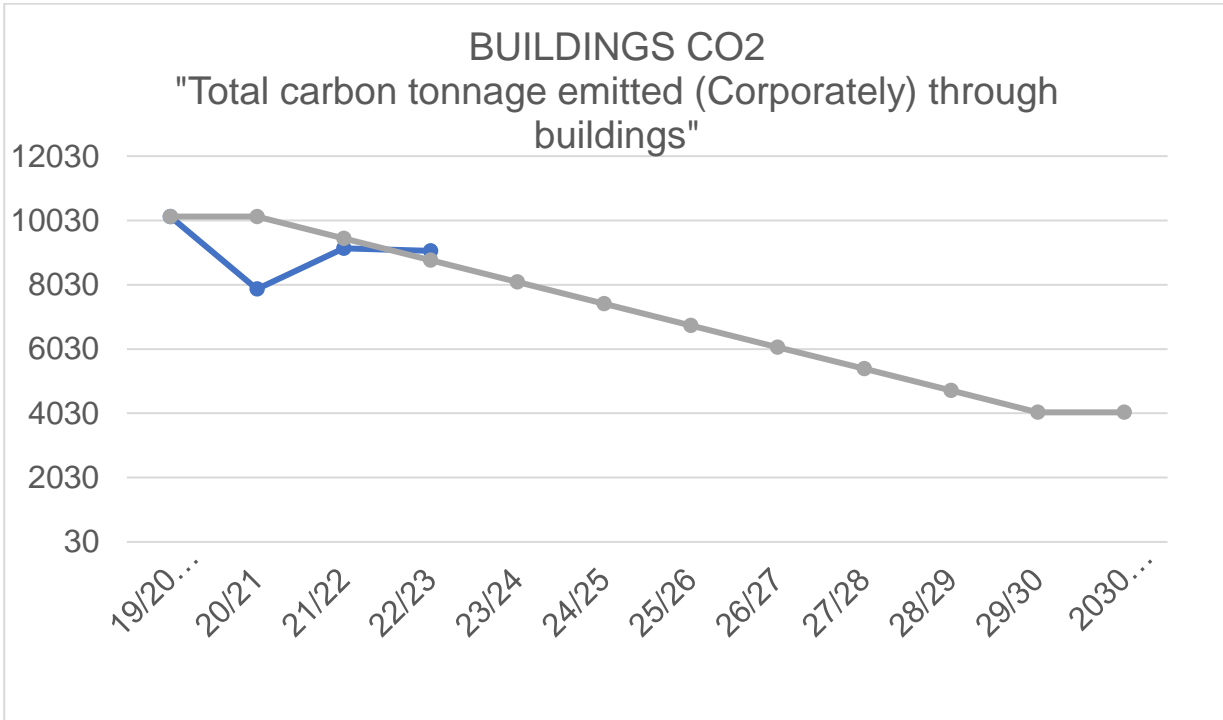
Appendix 5- Completed Process/Policy Changes and Projects/Activities contributing to supporting natures recovery across Denbighshire – Using Our Influence

The following process and policy changes and projects and activities that were identified in 2020 to contribute to improving the resilience of ecosystems which had broader County influence and listed in the strategy adopted in 2021 have been completed:

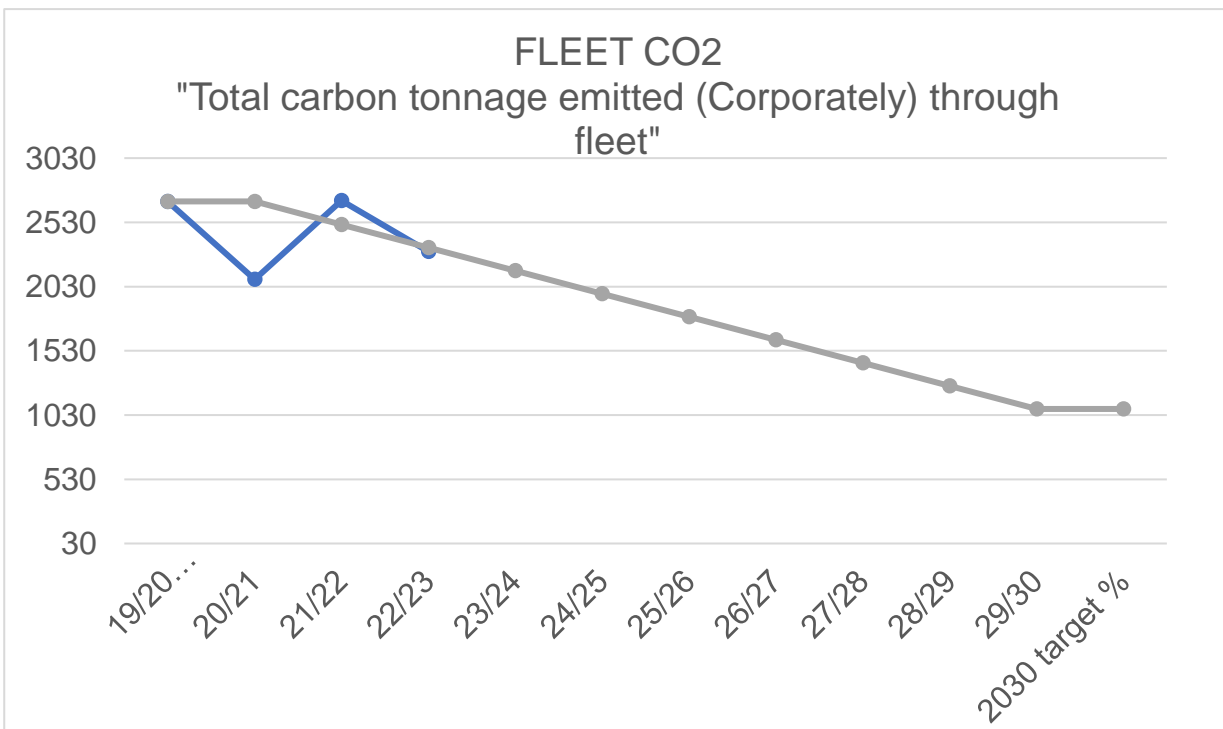
- Delivery of the replacement LDP which takes forward local priorities for land use planning within the national policy framework. The replacement LDP will ensure emerging local priorities around climate change and biodiversity are reflected in local planning
- Engage with City, Town and Community Councils on improving biodiversity via the review and update of the City, Town and Community Council Charter

Appendix 6- Denbighshire Climate and Ecological Change Workstream Progress

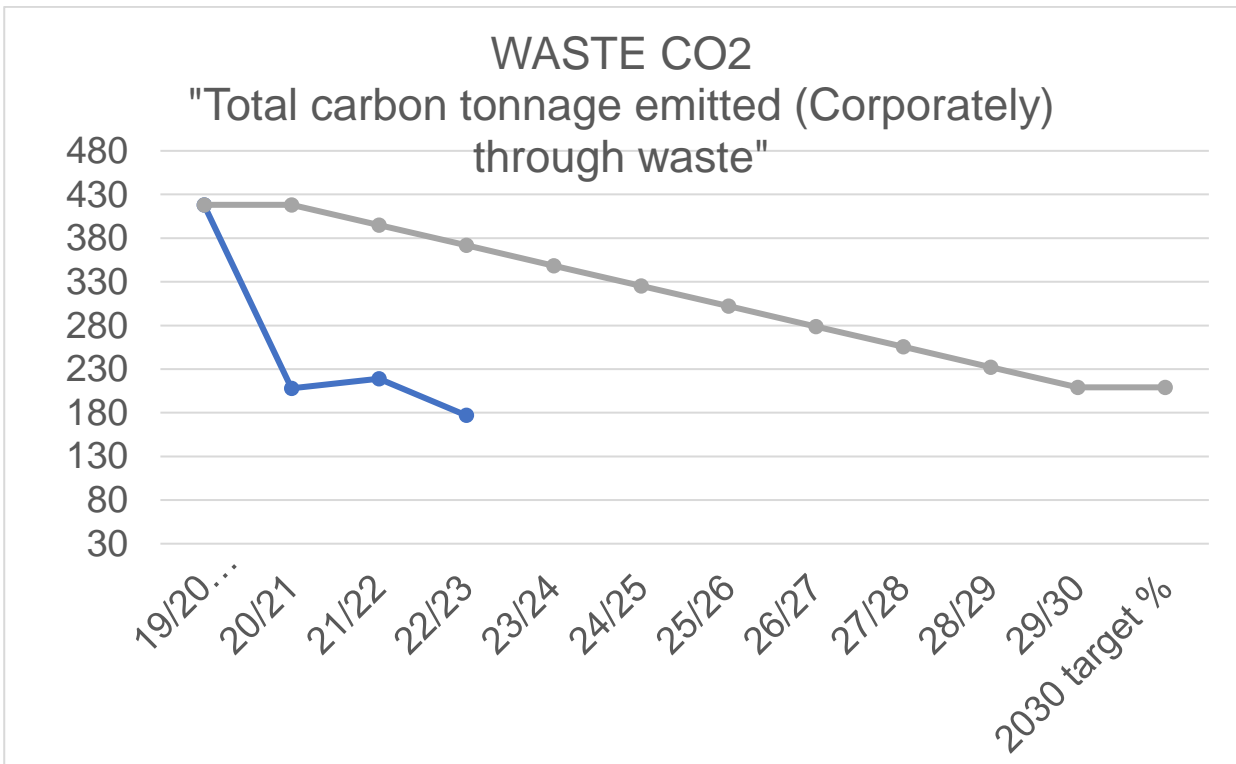
Building emissions



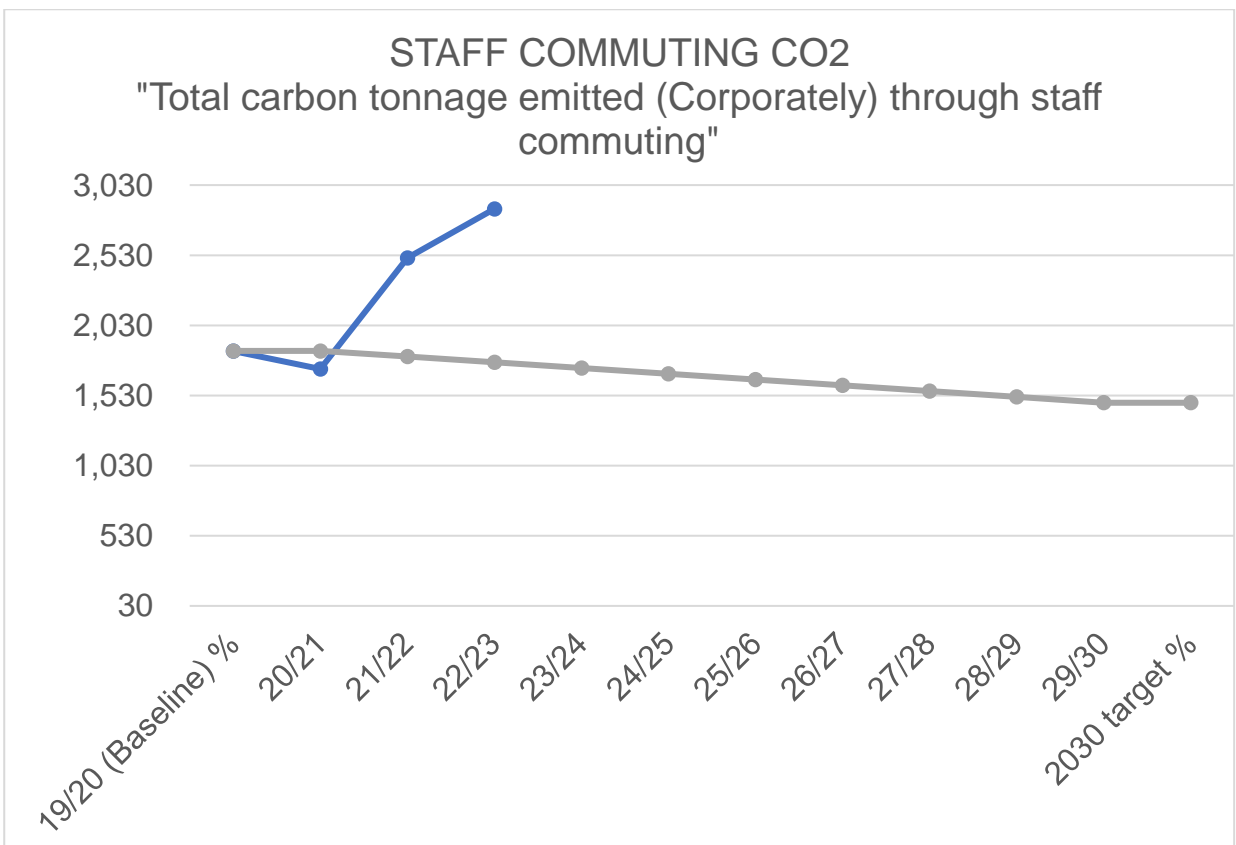
Fleet emissions



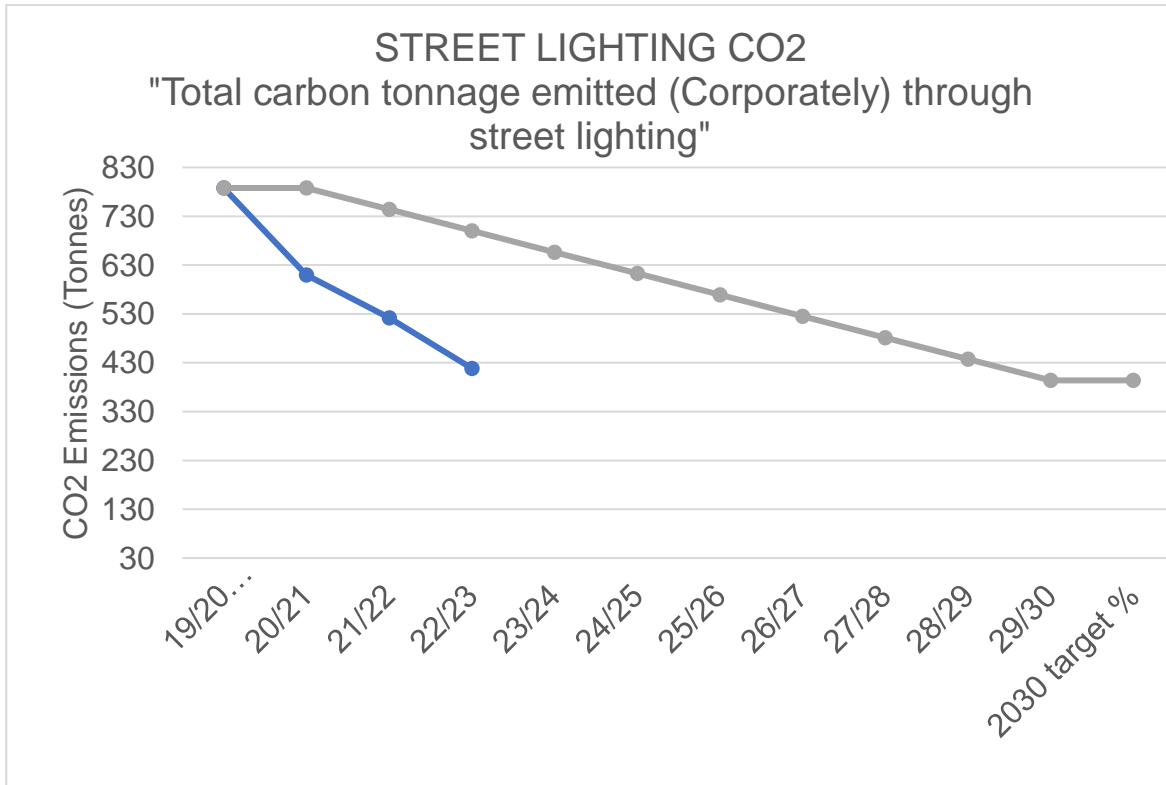
Waste (council operations only) emissions



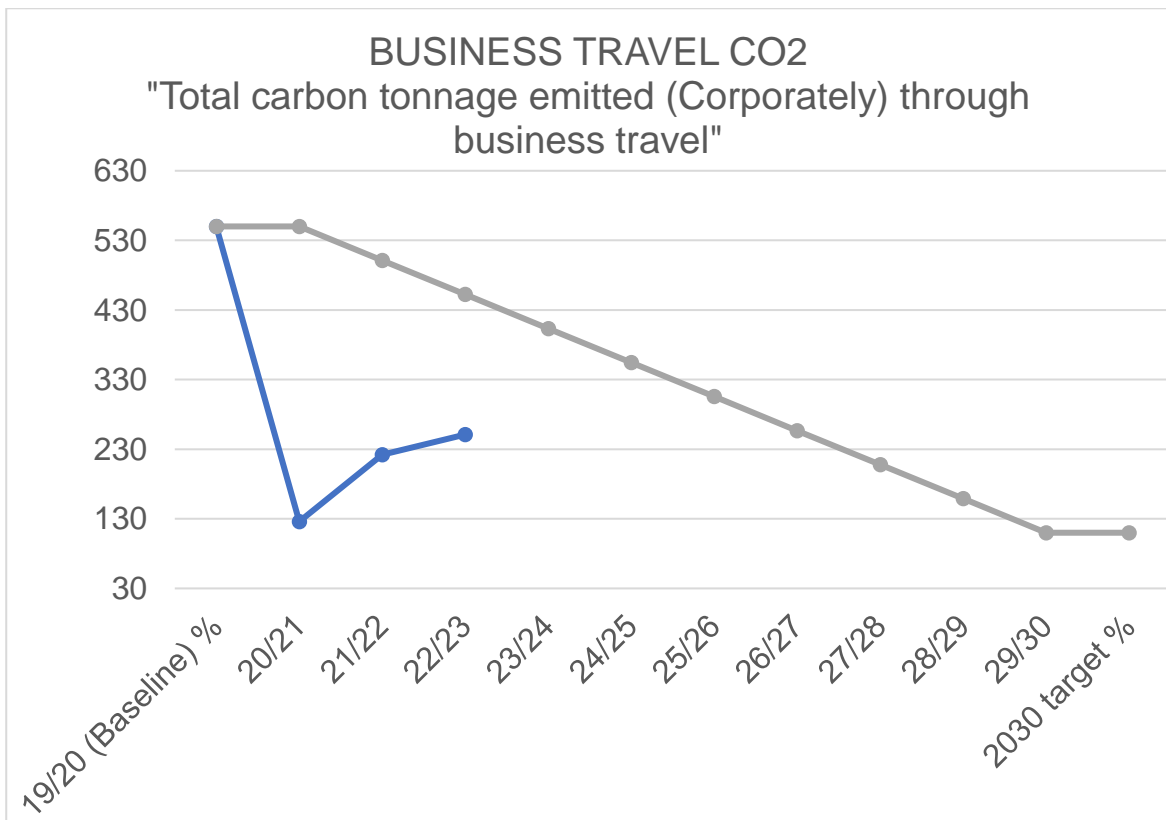
Staff Commuting emissions



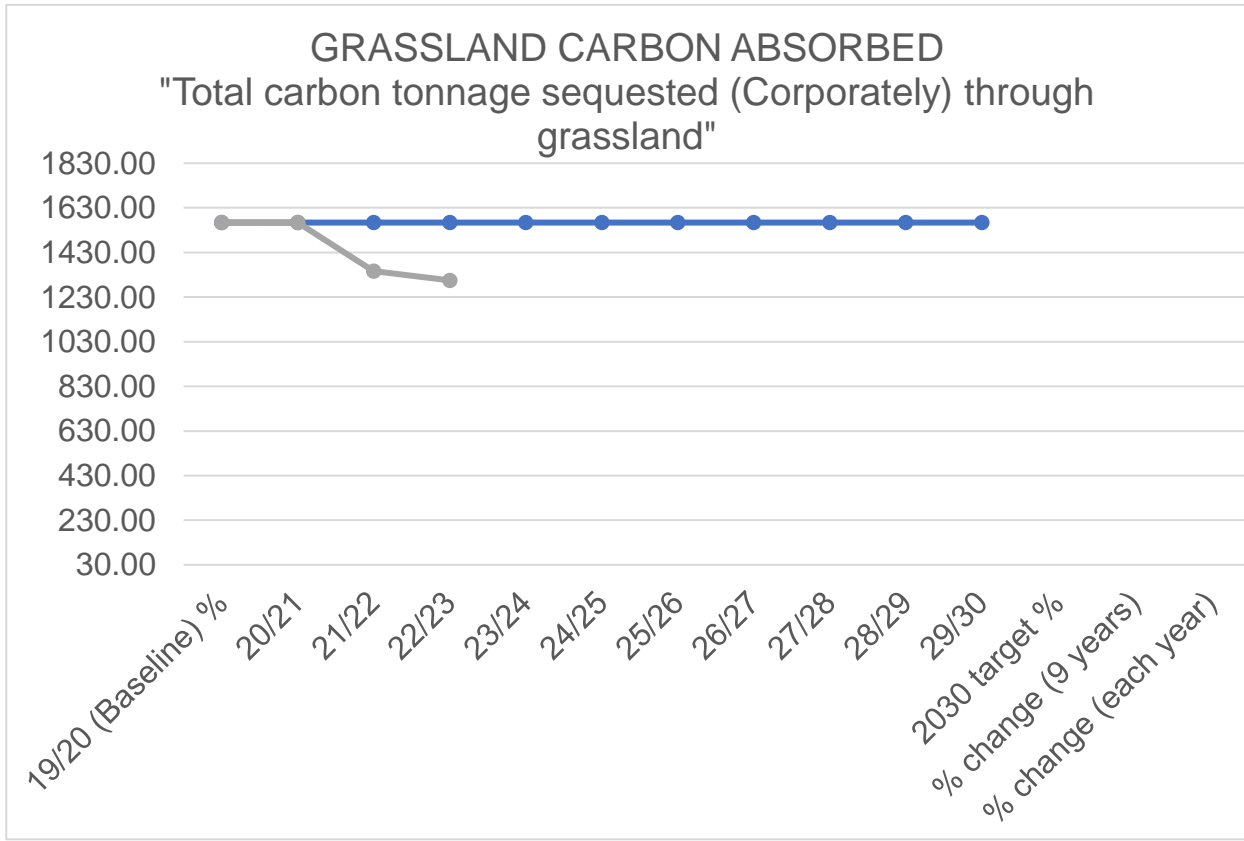
Street Lighting emissions



Business Travel emissions



Grassland sequestration



Forestland/Woodland sequestration (maturity adjusted)

