



Climate Change Strategy 2022/23 – 2029/30

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Foreword

Foreword from Cllr Derek Butler/Chris Bithell/Sean Bibby/Neal Cockerton

Executive Summary

- 1.1 The climate is changing and while it has always changed through natural environmental processes, it is now widely accepted that human activity is affecting the climate on a scale that is having detrimental effects on all living things. The Paris Climate Change Agreement 2015 recognised the need to accelerate actions and invest to reduce impacts on the environment¹. If we do nothing, the potential implications will be detrimental to our communities through risk to health and well-being, flooding, extreme heat, disruption to infrastructures in energy, transport and industry.
- 1.2 The Council supports the declarations made by Welsh Government for the Public Sector to become carbon neutral by 2030², and in Dec 2019 the Cabinet Members approved a motion to develop a clear Climate Change strategy which will set key aims and actions for creating a carbon neutral organisation.
- 1.3 The Council was responsible for greenhouse gas emissions of 46,434 tCO₂e in 2018/2019 from the services it delivers, the buildings it operates and the goods/services it purchases. There are a number of actions the Council can take to reduce its organisational greenhouse gas emissions and this document sets out the Council's first step goals and actions to become a net zero carbon organisation.
- 1.4 The theme objectives centre around buildings, mobility and transport, procurement, land use and behaviour. The actions identified within each of these themes have had input from Members, the public, and Council employees in order to deliver a pathway that is both ambitious and achievable with the right investment, resource, collaboration and leadership.
- 1.5 External funding will be available for carbon reduction projects, but the expectation is that capital and revenue investment will be necessary to realise this ambition. Further development of the Programme's action plan will estimate the level of investment needed for the interventions described and businesses cases for individual investment projects will be developed to demonstrate the potential financial savings both short and long term.
- 1.6 Adopting all current cost-effective or technically viable options to reduce carbon is unlikely to enable us to reach net-zero emissions by 2030, leaving an estimated 40% gap. These low-carbon measures may not yet be commonly available or cost or carbon effective; therefore it is vital that we are kept abreast of advances in technology and methodology.
- 1.7 To bridge the gap between emissions and net zero carbon, offsetting measures such as tree planting will be necessary, while also supporting the quality and range of biodiversity and implementing natural flood risk measures. The Council will need to determine its approach to this prioritisation within its land assets.

¹ United Nations (2015), *The Paris Agreement*. <https://www.un.org/en/climatechange/paris-agreement>

² Welsh Government (2019), *Prosperity for All: A Low Carbon Wales*. <https://gov.wales/low-carbon-delivery-plan>

- 1.8 The Council recognises it has a contribution to make towards the 'Team Wales' target³ of a net zero public sector and therefore will use the learnings from the first two years of this strategy to re-inform further actions, bridge the gap to net-zero, and address the successes and failures in emissions reductions. The net zero target for the public sector will be on a 'Team Wales' basis meaning carbon positive organisations will balance with residual emissions of other Public Bodies, but this does not remove the Council's responsibility to plan for net zero.
- 1.9 The impacts of climate change are already upon us, and it is vital that future thinking is developed to consider climate change adaptation within flood risk, building construction, access to green space, the travel network and increasing local green skills.

³ Welsh Government (2020), *Team Wales approach to tackle climate change*. <https://gov.wales/team-wales-approach-tackle-climate-change>

The Climate Emergency

- 2.1 Global heating is expected to generate significant sea level rises and more frequent and heavy extreme weather effects. The actual impacts of the climate crisis can already be seen in terms of storms, flash flooding and drought, causing water damage, surface water drainage issues, and destruction of aged green spaces resulting in increased maintenance of roads, buildings, flood defences and loss of ancient woodland. This threatens human life, as well as access to adequate energy, water, food and housing as essential human requirements for effective health, wellbeing and future resilience. A more heated and unstable climate also affects the natural environment and is a risk to the health and diversity of wildlife and ecosystems.
- 2.2 There is now unprecedented political recognition of the global Climate Emergency. The Intergovernmental Panel on Climate Change detailed the need to limit the increase in global temperature to 1.5°C above pre-industrial levels in order to prevent a public health catastrophe⁴. This is currently predicted to occur between 2030 and 2052 if the current rate of change continues.
- 2.3 The signing of the Paris Climate Change Agreement by 189 countries legally-bound their commitment to act to limit global temperature rise.⁵ The Climate Change Act 2008 gives specific targets around carbon reduction for the UK. Climate Change (Wales) Regulations 2021 proposes further increases to Wales' climate targets in response to recommendations from Climate Change Committee (CCC) with interim targets and a final net zero nation by 2050⁶.
- 2.4 In 2019, the Welsh Government declared a Climate Emergency in Wales, accepting the recommendations from the UK Committee on Climate Change and further setting ambitious plans for the public sector to be carbon neutral by 2030. 'Prosperity for All: A Low Carbon Wales'⁷ sets out Welsh Government's approach to cutting carbon emissions and the recent document 'Welsh Public Sector Net Zero Carbon Reporting Guide' details the principles and priorities for the reporting approach for the public sector.
- 2.5 There are a number of different Greenhouse Gasses (GHG) that affect global warming and in order to use a single number to 'group' these gases, they are converted into equivalent amounts of carbon dioxide – often seen as CO₂e.
- 2.6 As we are already experiencing the effects of climate change it is important that we look proactively to adapt to these impacts by adopting future thinking. This applies to the design and materials used in buildings, flood investigation and mitigation, renewable energy generation, access to green spaces and protection of the natural environment.

⁴ Intergovernmental Panel on Climate Change (2020), *Special Report – Global Warming of 1.5C*. <https://www.ipcc.ch/sr15/>

⁵ United Nations (2015), *The Paris Agreement*. <https://www.un.org/en/climatechange/paris-agreement>

⁶ Welsh Government (2021), *Climate Change Wales Regulations 2021*. <https://gov.wales/climate-change-wales-regulations-2021-integrated-impact-assessment-html#section-62452>

⁷ Welsh Government (2019), *Prosperity for All: A Low Carbon Wales*. <https://gov.wales/low-carbon-delivery-plan>

2.7 On 30 June 2021 the Welsh Parliament further declared a nature emergency following research showing how fragile many species and ecosystems are due to habitat loss, pollution, invasive non-native species and climate change. This called for statutory targets to be set to stop and reverse any decline in biodiversity.⁸

2.8 The Council has been committed to reducing carbon emissions and managing and enhancing biodiversity for some time, however the importance of the link between climate change and nature recovery brings this work to the fore and therefore both areas must work together to reduce the impact we are having on our planet.

⁸ Cynnal Cymru (2021), *Wales declares nature emergency*.. <https://cynnalcymru.com/wales-declares-nature-emergency/>

How this strategy was developed

- 3.1 Flintshire County Council supports the declarations made by Welsh Government and in Dec 2019 its Elected Members approved a motion to develop a clear Climate Change strategy which will set key aims and actions for creating a carbon neutral organisation.
- 3.2 During 2020 and 2021, the Council performed a number of engagement workshops with Members and Officers, identifying accomplishments made within carbon reduction, and proposals for future ideas to reach the net zero carbon goals.
- 3.3 In line with Welsh Government guide 'Net Zero Carbon Status by 2030: A route map for decarbonisation across the Welsh Public Sector' the plan is split into four themes of Buildings, Mobility & Transport, Procurement and Land Use.⁹ It was agreed to incorporate a fifth theme of Behaviour which will integrate within the other themes through communication, engagement, instruction and training.
- 3.4 The Council ran a public engagement period through October and November 2021 which described the work carried out to date in each of the themes and asked for feedback on the proposed next steps to achieve net zero carbon by 2030. During this period an engagement activity was also carried out with primary and secondary schools. This activity asked our young people to write a letter to their future selves about the world in 50 years and what they hope has been achieved in that time. A selection of excerpts from these letters are included throughout this strategy.
- 3.5 The feedback from this engagement period was further developed in internal workshops with each of the portfolio areas across the Council's services. This was supported by both the Climate Change Programme Board and Officer Group where scenario planning explored changes in both policy and process to deliver on our aims.
- 3.6 The scope identified within this strategy focusses on the changes and impacts that can be made directly by the Council to reduce both its own emissions and those of the wider county. The strategy is portioned with objectives and actions to reduce our direct carbon emissions, and then actions to reduce our wider emissions and those of the wider county.
- 3.7 It is clear that further progress in reductions can only be achieved through support and engagement of both the wider community and Welsh and UK governments.
- 3.8 The strategy was then presented to Cabinet Members in February 2022 for adoption.

⁹ Welsh Government (2021), *Net Zero Carbon Status 2030: Public Sector Route Map*. <https://gov.wales/net-zero-carbon-status-2030-public-sector-route-map>

4.1 Other Council Strategies that link to Climate Change Ambitions

- The Council aims to deliver a policy-led approach that incorporates the Well-being of Future Generations (Wales) Act 2015 and Environment (Wales) Act 2016.
- The Council's Corporate Plan outlines key priorities across its services.
- Renewable Energy 10 year Action Plan
- Air Quality Management Plan
- Biodiversity and Ecosystem Resilience Duty Delivery Plan (Sec 6 Environment (Wales) Act 2016)
- Urban Tree and Woodland Plan
- Local Development Plan
- Procurement Strategy
- Fleet Strategy
- Integrated Transport Strategy
- North Wales Joint Local Transport Plan
- Waste Management Strategy
- Housing Strategy & Action Plan
- Digital Strategy
- Clwydian Range and Dee Valley AONB Management Plan
- Active Travel Plan
- 21st Century Schools Investment Programme

Flintshire County Council's Carbon Footprint

- 5.1 Flintshire County Council has, over a number of years, committed to the reduction of carbon emissions through proactive carbon reduction strategies. During this period, approximately 60% of the Council's carbon emissions from energy sources have been reduced through proactive programmes including conversion of street lighting to LED, utilising energy efficiency measures across its assets, and leading the way with renewable energy schemes such as solar and methane capture.
- 5.2 The Council now identifies that this strategy needs to be widened to encompass all carbon emissions from the Council's assets and services and has therefore committed to become net zero carbon by 2030. This will look to decarbonise Council operations and promote the protection and enhancement of the county's natural environment. Following the link between the decline in nature and climate change it is important that the climate change strategy includes the protection of our ecology and biodiversity.
- 5.3 The Council's Cabinet Members approved a motion to develop a clear Climate Change strategy which will set key aims and actions for creating a carbon neutral organisation.
- 5.4 While the Council is committed to significantly reduce its carbon footprint, it recognises that however carbon efficient its assets and services become, there will still be a residual footprint of carbon that cannot be eliminated. Due to this, the carbon that cannot be removed must be compensated for through generation of renewable energy and carbon offsetting by, for example, tree planting. By generating renewable energy that is then utilised by the Council, we can reduce emissions associated with using energy from the grid.
- 5.5 The scale and scope of this strategy is informed by a number of key constraints including: wider financial constraints, COVID-19 recovery, changes in Government policy and planning policy, and funding availability e.g. Feed In Tariffs and Green Deal finance. More changes will emerge and it is vital for the Council to remain informed of emerging policy and financial change to support the wider climate change agenda. This strategy sets out the key actions that will impact out next steps in carbon reduction. The strategy will be reviewed in 2024/25 to review learnings, address successes and failures and adjust actions in line with emerging technologies and methodologies.
- 5.6 Achieving the aspirational targets set out in this strategy will require the Council to work with neighbouring Councils, Welsh government, other public sector organisations, Universities, local businesses and voluntary and community groups to work in partnership. The Council calls upon these stakeholders to collaborate with us to capitalise on opportunities and resources, in order to maximise our collective efforts to minimise greenhouse gas emissions from Flintshire. Only through working together can we achieve the required reduction in emissions needed to avert dangerous levels of climate change and achieve net zero carbon as a wider-nation by 2050. The Council has already shown leadership in partnership with development of Parc Adfer waste to energy facility, and continues to work closely with North Wales Economic Ambition Board, Public Service Board and others.

Baseline

6.1 Everything we do has an effect on the environment we live in; from burning fossil fuels for heating to collecting kerbside waste and recycling. Flintshire County Council reports its carbon footprint to Welsh Government as tonnes of carbon dioxide equivalent (tCO₂e) within its organisational and operational boundaries. This plan relates to the Council's internal operations which are:

- Buildings owned and operated by the Council including offices, depots, schools, community centres, care homes, public conveniences and street lighting. This includes heating, electricity and water use within these facilities.
- Fleet vehicles owned by the Council,
- Business travel for work,
- Employee commuting,
- Procurement of goods and services.

6.2 The scope excludes:

- Domestic properties,
- Buildings owned by us that are leased out and operated by third parties,

6.3 In order to establish where we are and where we need to be, we first need to look at our baseline figures. In 2018/19 we were able to capture the data set out below. Figure 1 below shows a breakdown of GHG emissions by emission source for 2018/19.¹⁰

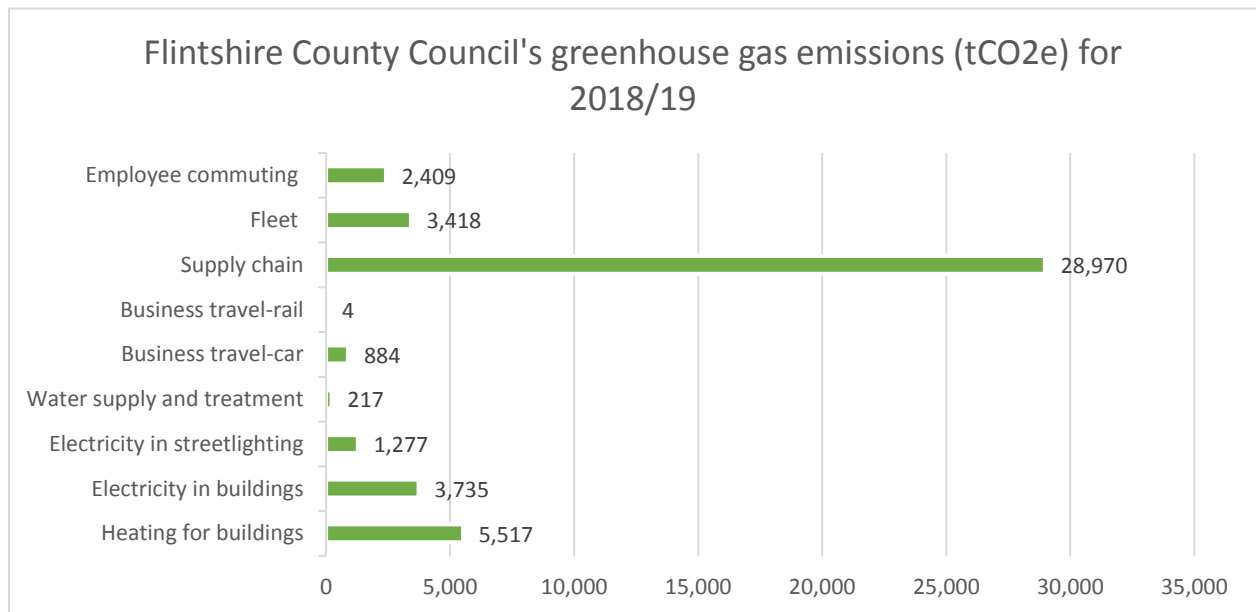


Figure 1: Flintshire County Council's GHG emissions for 2018/19 baseline

¹⁰ It should be noted that the data has been collected using the best available methods at that time, and therefore the expectancy is that data accuracy will improve with emerging methodologies.

6.4 As these figures suggest, the biggest contributors to the Council's carbon footprint in 2018/19 were:

- Supply chain; procurement of goods and services: 62%
- Heating for buildings: 12%
- Electricity in buildings: 8%
- Fleet: 7%
- Employee commuting: 5%¹¹

6.5 The Council produced 1,664 tonnes of waste in 2018-19 from its operations, however all waste collected by the Council, including operational waste, was either recycled or sent to energy from waste plants for incineration when it cannot be recycled. All green waste is composted. Therefore the only carbon emissions related to waste are included in the 'Fleet' data through waste collection vehicles.

6.6 Supply chain; procurement of goods and services equates to 62% of our baseline carbon emissions total. The Council understands that there are actions that can be taken to reduce these emissions through decision making processes and supplier engagement, however this figure will only see significant reductions if the appropriate investment, policy and infrastructure is provided and developed by the Government.

6.7 From this data we understand that our baseline carbon emissions for 2018/19 were 46,434 tCO₂e.

6.8 In 2018/19, the Council reported an estimated 1,500 tCO₂e absorbed from its land assets. However, this figure has been estimated based on two specific land types – grassland and woodland/forest – with a common value factor used to determine the absorption of carbon. As yet, no formal baseline figures have been calculated for our land assets to determine more accurate absorption figures and therefore this action is a priority in realizing the true benefits of our land to both carbon sequestration and wider habitat richness.

6.9 The 2018/19 carbon absorption total can be removed from our emissions total as a 'carbon offset'. Therefore to meet our net zero carbon goal, the total carbon emitted by the Council, minus the total carbon absorbed from Council owned and operated land, must equal zero by 2030. In 2018/19 the balance of carbon emissions was 44,934 tCO₂e.

6.10 The Council now has carbon emission data for three financial years as shown in Figure 2 below. The total carbon emissions for 2019/20 saw a 1% reduction on the 2018/19 baseline. The total carbon emissions for 2020/21 saw a 17% reduction on the 2018/19 baseline. This is further to the reductions already made within the former carbon reduction strategy 2009 – 2021.

¹¹ Note this data has a high level of inaccuracy due to the calculation methodology used

6.11 Emissions reductions in 2020/21 were made across most sources but most significantly within mobility and travel, electricity in buildings and electricity in street lighting. The former are the result of changes in work pattern due to the global COVID-19 pandemic. The latter is a result of change of use and investment in energy efficiency measures in buildings and the recent conversion of street lighting to low energy LEDs.

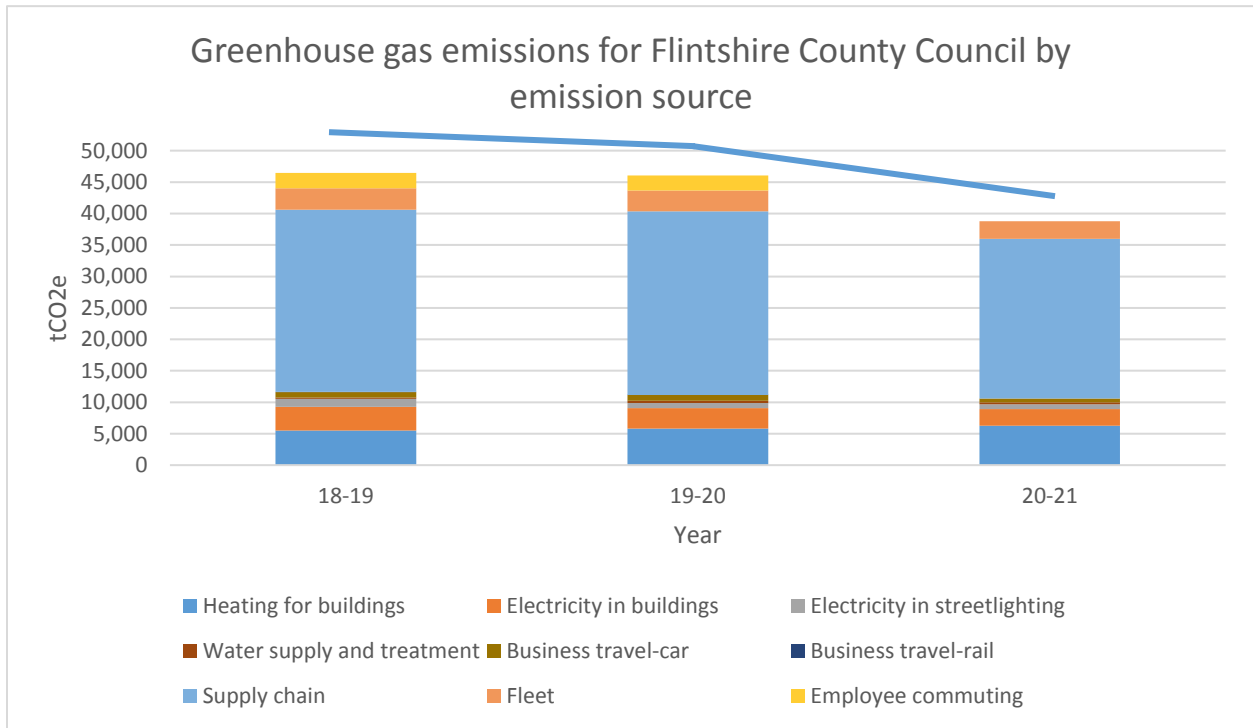


Figure 2: Flintshire County Council GHG emissions for 2018/19 baseline by emission source

Flintshire County Council's Carbon Neutral Pathway

7.1 Flintshire County Council's emissions pathway has been mapped out between 2018 and 2030 demonstrating:

- Business as Usual (BAU) - the expected emissions should no further action be taken to decarbonise.
- Decarbonisation Pathway – a targeted decarbonisation scenario based on the actions detailed within this Strategy.
- Net zero – a best case scenario decarbonisation path if resources were unlimited, to show the gap to net zero for the Council.

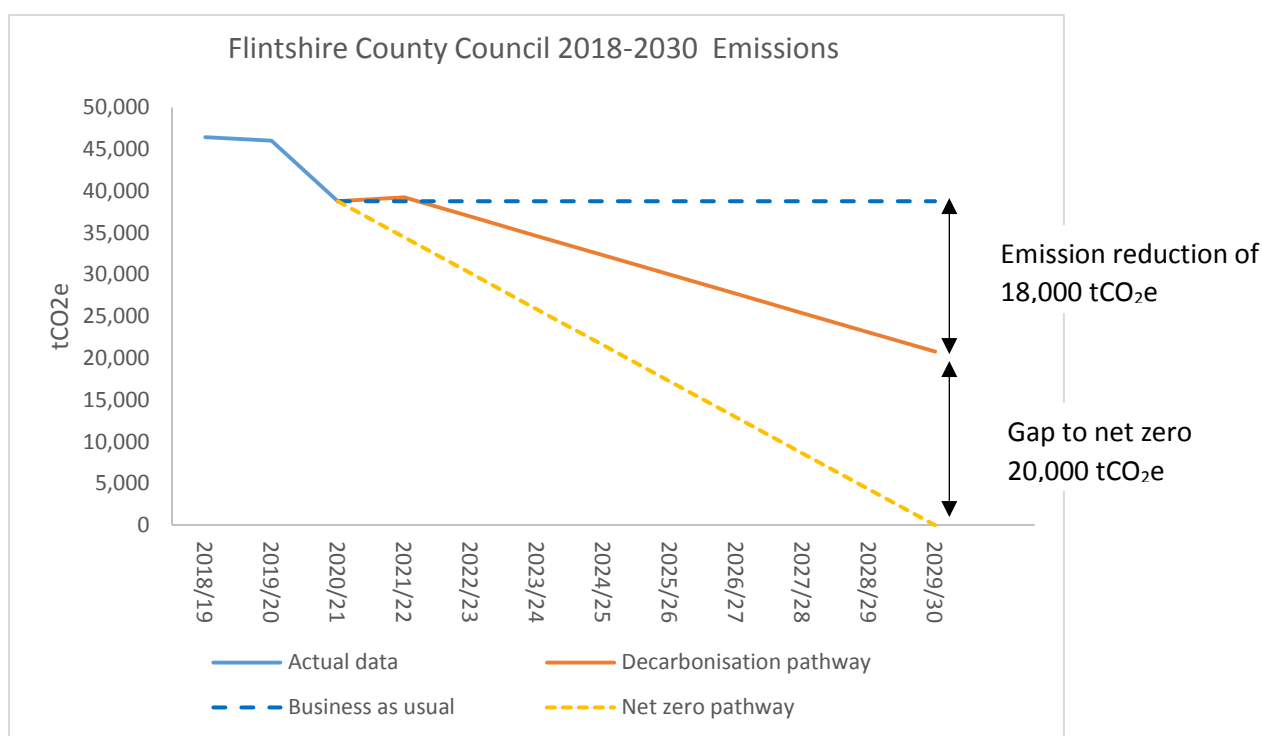


Figure 3: Flintshire County Council's projected emissions to 2029/30

7.2 The reduction in emissions for 2020/21 were fairly significant and due to accelerated change in response to the COVID-19 global pandemic. The changes made were already in plan but travel and social restrictions advanced these so that business operations and services could still deliver. The Council is confident that the reduction in emissions can largely be maintained but the accelerated reduction in 2020/21 will be difficult to maintain over the 8 year duration to 2030.

7.3 Figure 3 shows the decarbonisation pathway of predicted emission reductions based on delivery of the actions within this strategy. When compared to a Business As Usual scenario where no changes are made we could see an 18,000 tCO₂e reduction in emissions by achieving the aims within. The objectives and actions described in the next section have potential to fulfil this reduction in emissions.

- 7.4 However, this still leaves a 20,000 tCO₂e gap to zero by 2030. These remaining emissions will mainly come from:
- Buildings that are not suitable for retrofit of energy efficiency measures or renewable energy and therefore retain a higher energy consumption.
 - Employee commuting / business travel where using non-fleet vehicles that are not ultra-low emissions.
 - Supply chain; procurement of goods and services.
- 7.5 Some of this gap can be filled by utilising carbon offsetting to absorb and store carbon so investment in this area is crucial.
- 7.6 The current methodology to determine emissions from supply chain/procurement is based on the value of goods/services. Due to this, for as long as we are spending money within specific 'higher carbon' areas, the assumption is that our emissions are relative to the value of those spends. This makes reductions of emissions from supply chain difficult to accurately quantify and difficult to manage.
- 7.7 There are actions that we can take to improve emissions from supply chain/procurement – for example weighting tendering processes based on lower carbon emissions (local supply/low energy construction or delivery). However, significant change can only come from this area with improved emissions methodologies that better represent real emissions and better legislation/regulation/investment in local green skills. Due to this, and the fast developing changes in climate change best practice, we can only effectively plan up to three years ahead. In 2024/25 the decarbonisation pathway will be reviewed in light of these changes.
- 7.8 The four themes identified within Welsh Government's 'Net Zero Carbon Status by 2030: A route map for decarbonisation across the Welsh Public Sector' are Buildings, Mobility & Transport, Procurement and Land Use.¹² Land Use has a negative impact as it absorbs carbon dioxide and is therefore not included in the following charts.
- 7.9 Based on reductions from 2018-21, and considering the impacts of actions detailed within this strategy that we can deliver in coming years, we estimate that carbon reduction in each of the themes will look as per Figure 4. This demonstrates the predicted balance of emissions remaining within each theme – most significantly Procurement.

¹² Welsh Government (2021), *Net Zero Carbon Status 2030: Public Sector Route Map*. <https://gov.wales/net-zero-carbon-status-2030-public-sector-route-map>

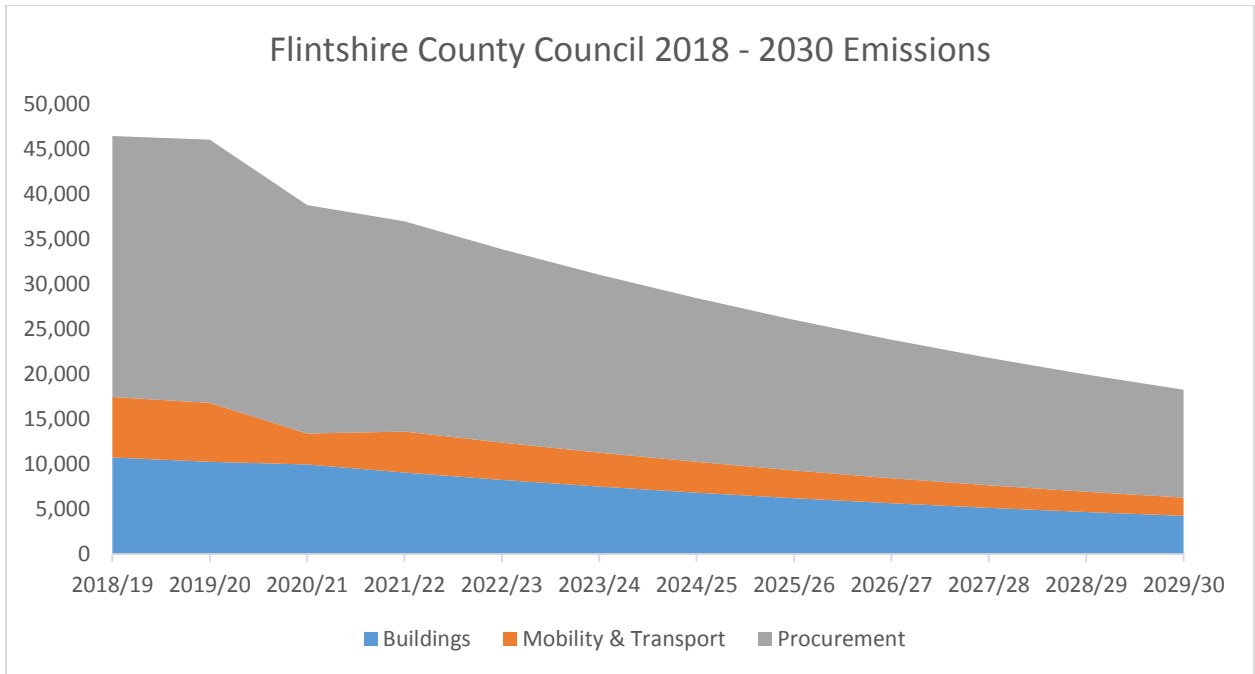


Figure 4: Flintshire County Council Forecast Emissions 2018-2030

7.10 Figure 5 below shows where we are now and the milestones we hope to reach between now and 2030. We are currently aiming for a 60% emission reduction in Buildings, 80% emission reduction in Mobility & Transport and 60% reduction in Procurement.

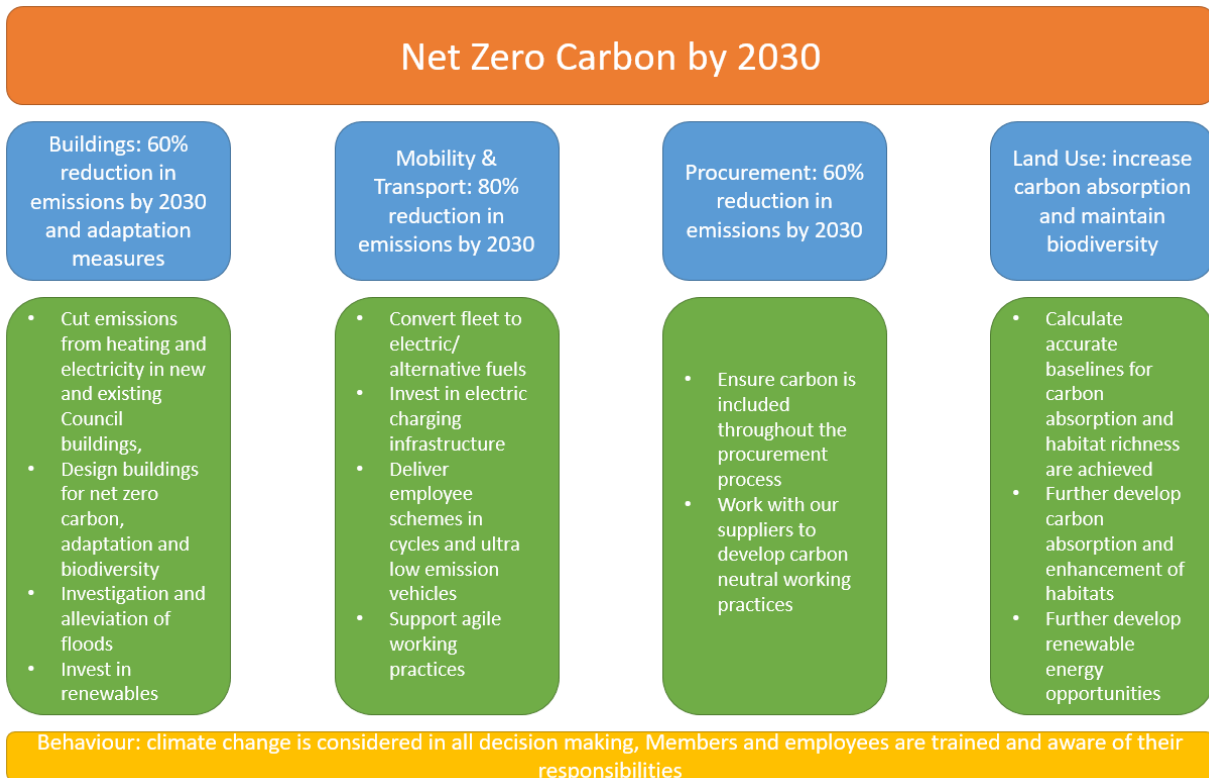
Theme	Baseline tCO ₂ e	Reduction		
	2018/19	2020/21	2024/25	2029/30
Buildings	10,747	8%	35%	60%
Mobility & Transport	6,716	49%	50%	80%
Procurement	28,970	12%	30%	60%

Figure 5: Flintshire County Council Carbon Emission Milestones to 2030

7.11 To achieve these milestones we will set interim targets in each theme which will allow us to identify success and areas that need additional attention.

Carbon Neutral Council by 2030

8.1 The Council has identified aims within each of the key objective themes. Each of these objectives has a number of wide-ranging actions. The reduction aims are based on the 2018/19 baselines for each theme.



8.2 Given the scale, complexity and urgency of responding to climate change, it is proposed that the 'Action Plan' is seen as something that is iterative in nature. While setting out the medium to long term roadmap to carbon neutrality, it is also likely that an annual update will be needed, to capture the rapid changes being delivered under the Action Plan, and to ensure it is reflective of the likely rapidly changing national and international context.

Objective One – Buildings

9.1 In 2018/19, Council owned buildings produced 10,747 tCO₂e. These emissions came from direct burning of fossil fuels for heat, electricity and water use in buildings and energy used to power street lights. Since 2009 a number of programmes have been completed to reduce these emissions from our offices, schools, leisure centres and care facilities. However to achieve carbon neutrality we need to reduce the emissions even further while also considering the impacts of buildings on biodiversity.

9.2 To achieve our 60% emissions reduction in buildings by 2030 we will aim for 9% reduction each year to 2029/30.

9.3 Progress to date:

- In 2009 the Council developed a carbon reduction strategy to reduce emissions from energy related carbon by 60% by 2021. This strategy saw the delivery of many effective and innovative projects across the county including:
- Installation of low carbon and renewable energy systems in over 50 of the Council's buildings including offices, schools and leisure centres. Technologies include solar PV, solar thermal, wind turbines, heat pumps, biomass boilers and combined heat and power.
- Non domestic energy generation systems met approximately 10% of the Council's energy demand in 2018-19.
- Investment in innovative technologies such as transpired solar collectors and battery storage.
- Delivery of an annual programme of energy efficiency measures, such as building fabric insulation, draught proofing, new boilers, new heating controls, lighting upgrades etc in the Council's non domestic buildings since 2008.
- Investment and delivery of energy efficiency improvements in Council housing through the Welsh Housing Quality Standard and Welsh Government/UK Government schemes such as NEST, Arbed, Warm Homes Fund and Eco (including improvements of private households).
- Rationalisation of Council estate moving employees to a modern, more energy efficient building in Ewloe.
- Building and renovating fit for future schools through the 21st Century Schools Programme, with new school buildings funded through this programme required to be Net Zero Carbon.
- Replacement of the Council's streetlighting with LED lamps which use significantly less electricity.
- Installation of low carbon and renewable energy systems in its own housing since 2009 including solar PV, ground and air source heat pumps and battery storage. There are now over 700 homes with solar PV and the Council was one of the first authorities to trial the combination of air source heat pumps, solar PV and battery storage.
- The Council saw further reductions from building emissions during 2020/21's COVID-19 pandemic where building occupancy and services were reduced to protect local communities.

9.4 Future actions

- The Council acknowledges that return of services and investment in some areas, e.g. EV charging infrastructure, will increase our demand for energy and therefore further investment around renewable energy generation is necessary within our buildings and assets and land use.

We will:

- Ensure all Council buildings and schools (*excluding housing*) are included in a green energy tariff by 2025.
- Further review the rationalisation of our building assets and leases in reflection of our new ways of working.
- Improve the standard of energy efficiency in our existing buildings and engage with building users to encourage positive behaviour change.
- Design and refurbish buildings for carbon neutral / low energy operation, biodiversity net benefit and adaptation to the impacts of climate change.
- Support schools to reduce operation's emissions.
- Ensure green infrastructure is considered throughout all existing Council assets and future schemes, e.g. allocation of green space, green roofs, habitat creation.
- Continue to carry out flood investigation and alleviation to identify proactive mitigation measures & prevent recurrent flooding
- Prioritise nature based solutions to flooding remediation proposals
- Explore feasibility for rainwater harvesting within Council assets, particularly on high water usage sites.

Further measures of success and timescales can be found in Appendix 2

Objective Two – Mobility & Transport

10.1 Reducing emissions from Council owned fleet, business travel and employee commuting. Emissions from mobility & transport remain a consistent source of carbon emissions with 14% of total emissions being reported in 2018/19. We know that technologies around electricity and hydrogen fuelled vehicles is improving and we need to ensure that we do not fall behind in this area.

10.2 To achieve our 80% emissions reduction by 2030 we aim to reduce our emissions by 9% each year to 2024/25 and then increase to 10% per year up to 2029/30.

10.3 Progress to date:

- The Council's fleet meets the Euro 6 standard and therefore has the lowest emissions possible for diesel vehicles.
- Delivery of safer routes in the community schemes around schools, encouraging children with their families to walk and cycle to school offering improved road safety, reduced air pollution and congestion whilst also improving peoples' physical and mental health.
- Developed community based transport options when commercial bus services have been withdrawn.
- Developed and delivered active travel routes across the County.
- These projects have helped to reduce our carbon emissions from mobility and transport by 49% in 2020/21 compared to 2018/19 baseline. We anticipate that our emissions could increase with the reintroduction of services across the county and therefore are committing to a variety of actions.

10.4 Future actions:

We will:

- Complete the review of the current fleet contract to fulfil transition to ultra-low emission vehicles (ULEV).
- Review fleet policy with consideration for charging of vehicles.
- Learning from accelerated change due to COVID-19, review and implement policies and initiatives that support the reduction of carbon emissions from business mileage. Continue to implement and develop agile working practices to reduce employee journeys and utilise virtual meetings.
- Trial two electric recycling vehicles from early 2022.
- Introducing two electric buses to serve local travel arrangement in Buckley and the Deeside Industrial Park & Ride facility on Zone 2.
- Ensure vehicle charging points are available at key areas across the county - rural and urban.
- Transition fleet vehicles to electric and alternative fuels (hydrogen, etc)
- Facilitate a car sharing forum for employees – once measures post-COVID-19 are reviewed
- Actively promote the existing employee cycle to work scheme to increase participation and review cycle storage facilities at principle work places
- Promote and launch a managed salary sacrifice scheme for low and ultra-low emission vehicles.

Further measures of success and timescales can be found in Appendix 2

Objective Three – Procurement

11.1 Current estimates by Welsh Government show that 60 - 81% of Public Sector organisations' operating budgets are spent with Suppliers and Contractors. Flintshire County Council's own emissions from procurement represented 62% of total emissions in 2018/19. This has seen a 12% reduction in 2020/21 against the 2018/19 baseline. Due to this, the Goods, Services and Works provided by our Suppliers and Contractors emits a significant percentage of the carbon we generate.

11.2 This makes decarbonisation within the Council's commissioning, procurement and contract management processes a key player in influencing and reducing our emissions – however, there is an acceptance that external factors largely affect this and therefore we have reduced the target emissions reduction for this theme.

11.3 To achieve our 60% emissions reduction by 2030 we aim to reduce our emissions by 8% each year up to 2029/30.

11.4 Progress to date:

- The Council has a strong methodology established through our own TOMs (Themes, Outcomes & Measures) framework which uses social, economic and environmental factors within procurement operations.
- Joint procurement service with Denbighshire County Council which allows collaboration to maximise cost and efficiency savings.
- Review of Joint Social Value Procurement Strategy to provide consistency and ensure social, economic and environmental factors are not compromised.

11.5 Future actions:

We will:

- Review of procurement strategy in line with the Council's carbon ambitions to ensure specific measures around carbon and biodiversity are embedded in procurement process.
- Ensure carbon reduction is appropriately considered throughout Council procurement policy, strategy, business cases, commissioning templates, tender evaluations, etc.
- Increase the utilisation of the TOMs (Themes, Outcomes and Measures) framework in procurement across the Council's operations by working with employees who manage procurement activities
- Work collaboratively with Denbighshire County Council to develop a toolkit to ensure all procurement exercises are awarded giving appropriate consideration to carbon reduction priorities and provide communication and training to all affected employees and suppliers
- Enable best practice for carbon offsetting schemes providing local place-based environmental outcomes, where required
- Support the local economy where possible
- Work in collaboration where procurement of goods and services can be utilised on a regional or joint basis

Further measures of success and timescales can be found in Appendix 2

Objective Four – Land Use

12.1 We aim to increase carbon absorption and maintain biodiversity within our land assets.

12.2 The Council can utilise our land to support our carbon and biodiversity aims. We can do this through investment in renewable energy and planting schemes to support carbon absorption and improvement and maintenance of our biodiversity. The Council has worked on large scale projects to increase our renewable energy generation, however in order to reach our ambitious goals of decarbonisation more large scale projects will need to be developed.

12.3 It is unlikely that the Council will be able to reduce its annual GHG emissions to 1500 tCO₂e by 2030 (our current annual sequestration rate for our existing land assets). Therefore, once all opportunities to reduce GHG emissions have been completed/exhausted the Council will need to increase the annual amount of carbon sequestered in its land assets. This does not remove the Council's responsibility to aim for net zero carbon.

12.4 Progress to date:

- Own and operate two landfill gas engines which generate low carbon electricity and are now complemented by two solar farms. These power on site facilities as well as the nearby waste transfer station.
- The construction of an additional two solar farms, with a combined generation capacity of 3.5MW.
- The trial of different grass cutting regimes on the Council's verges and green spaces to encourage and enhance biodiversity.
- Development of a 15 year Urban Tree and Woodland Plan with the target of achieving 18% urban canopy cover by 2033. Objectives of the plan are to increase the amount of tree planting by specifically targeting urban areas with low canopy cover, ensuring existing canopy cover is managed sustainably, promoting biodiversity and working in partnership. The Council has been working with Community Groups, Natural Resources Wales and schools - planting trees in education and public land.
- Publishing of our "Supporting nature in Flintshire" biodiversity duty plan and are working to support biodiversity protection and improvement in Flintshire.
- Working with hundreds of businesses, volunteers, charities, schools and other organisations, across the region of North Wales, Shropshire and Cheshire removing litter from the banks and tributaries of the River Dee.
- Countryside Services manages over 40 sites of natural greenspace including Wepre Park and Greenfield Valley Heritage Park, 1,200 km public rights of way, 60 km of Welsh Coastal Path, events and education programmes, and brings in external grants of over £400k per year connecting people to nature.
- The Council has protected our 120 play areas and invested over £2m in partnership with town and community councils over the last 8 years as well as ensuring free open access to greenspace.
- Through collaboration with regional partners and Welsh Government, the Council has managed the construction of an energy from waste facility, Parc Adfer, which will create electricity for 30,000 homes from waste that cannot be recycled. It will also help to prevent waste from going to landfill.

- Through the same partnership all of the Council's food waste is taken to an anaerobic digester where it is used to produce electricity (via biogas) and liquid fertilizer, preventing food waste from going to landfill.
- All green waste is developed into compost at the Greenfield Waste Transfer Station.

12.5 Future actions:

We will:

- Identify current carbon storage capacity within Council assets through mapping habitat types
- Investigate the potential of our land assets for new renewable energy installations and operating models and develop these schemes to increase the amount of energy generated from these sources
- Undertake a study identifying land for habitat restoration and tree planting schemes within land assets to mitigate climate change and enhance biodiversity
- Audit the amount of herbicide and pesticide use on Council land assets
- Increase proportion of Council land managed for biodiversity
- Support the increase of tree canopy cover across the county in line with the Urban Tree and Woodland Plan.
- Assess impacts of Ash Dieback and tree planting within Flintshire assets on canopy cover and net carbon sequestration
- Increase area with reduced mowing regimes to enhance biodiversity and increase carbon storage
- Strengthen the monitoring of sustainable drainage systems (SuDs) installation and quality in new developments.
- Explore best practice policies and encourage provision of space for food growing in new developments and vacant and under used sites
- Review and improve recycling provision in Council offices, schools and public buildings and remove use of single-use plastics. Communicate and engage building users to utilise provision
- Support circular economy initiatives diverting reusable items from disposal through recovery at Household Recycling Centres
- Create guidelines for Council procurement of food in offices, schools, etc, to be local and sustainable

Further measures of success and timescales can be found in Appendix 2

Objective Five – Behaviour

13.1 Climate change is a behavioural change programme. Behavioural change is a large part of climate action and the success of both the Council's and the wider nation's climate ambitions hangs on all of our actions. Communication and engagement is key for ensuring the ambitions set out in this strategy are embedded within the Council's culture and ethos.



13.2 Supporting Council services to adapt to the impacts of climate change and decline in nature

We will:

- Ensure climate change and biodiversity is considered a priority in decision making across all Council services
- Ensure Councillors and employees complete carbon literacy / introduction to climate change / biodiversity training. Inclusion of climate change within induction process.
- Engage employees and Trade Unions to renew job descriptions to include climate change responsibilities
- Facilitate transition towards a 'paperless Council' through, for example, digitisation of wage slips, report packs, contracts, applications, etc.
- Facilitate corporate volunteering for climate and biodiversity action

Further measures of success and timescales can be found in Appendix 2

Flintshire County's Carbon Footprint

Flintshire county GHG Emissions

14.1 Flintshire county has seen an overall reduction in GHG emissions since 2005 as shown in Figure 6. The emissions during this time have had periods of increase specifically around 2011/12 and 2017/18.

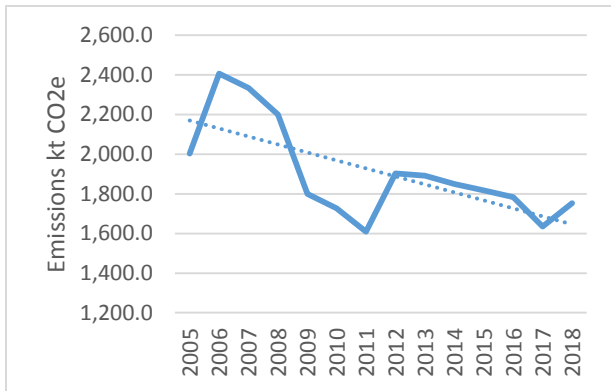
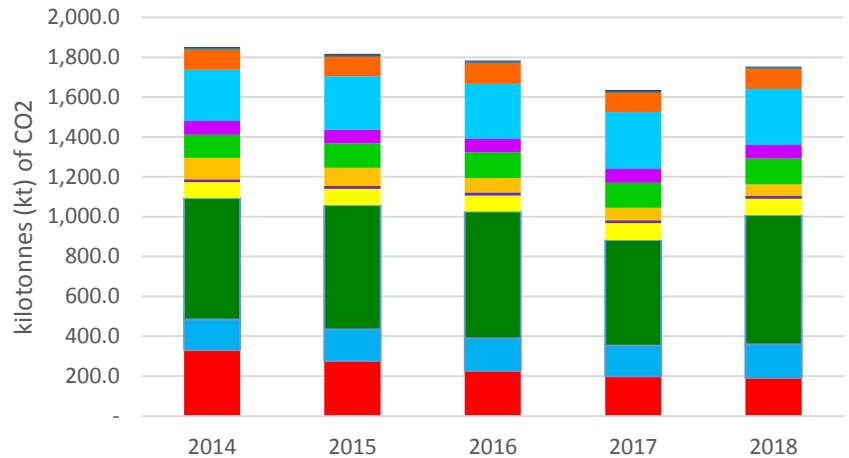


Figure 7: GHG emissions for Flintshire county 2005 - 2018 - Department of Business, Energy & Industrial Strategy.



- Industry and Commercial Electricity
- Industry and Commercial Gas
- Large Industrial Installations
- Industrial and Commercial Other Fuels
- Agricultural Combustion
- Domestic Electricity
- Domestic Gas
- Domestic Other Fuels
- Road Transport (A Roads)
- Road Transport (Minor Roads)
- Diesel Railways
- Transport Other
- LULUCF Net Emissions

Figure 6: Breakdown of GHG emissions by individual sources for the period 2014-2018. LULUCF stands for land use, land use change and forestry and is the difference between what is absorbed by the land and what is emitted.

14.2 Figure 7 provides a further breakdown of the emission sources that contribute to the County's overall GHG emissions from 2014-2018.¹³ Largest contributors to this footprint are large industrial installations and road transport. There are significant industrial areas in the county including Deeside, and the heavily used coast road also runs the length of the county.

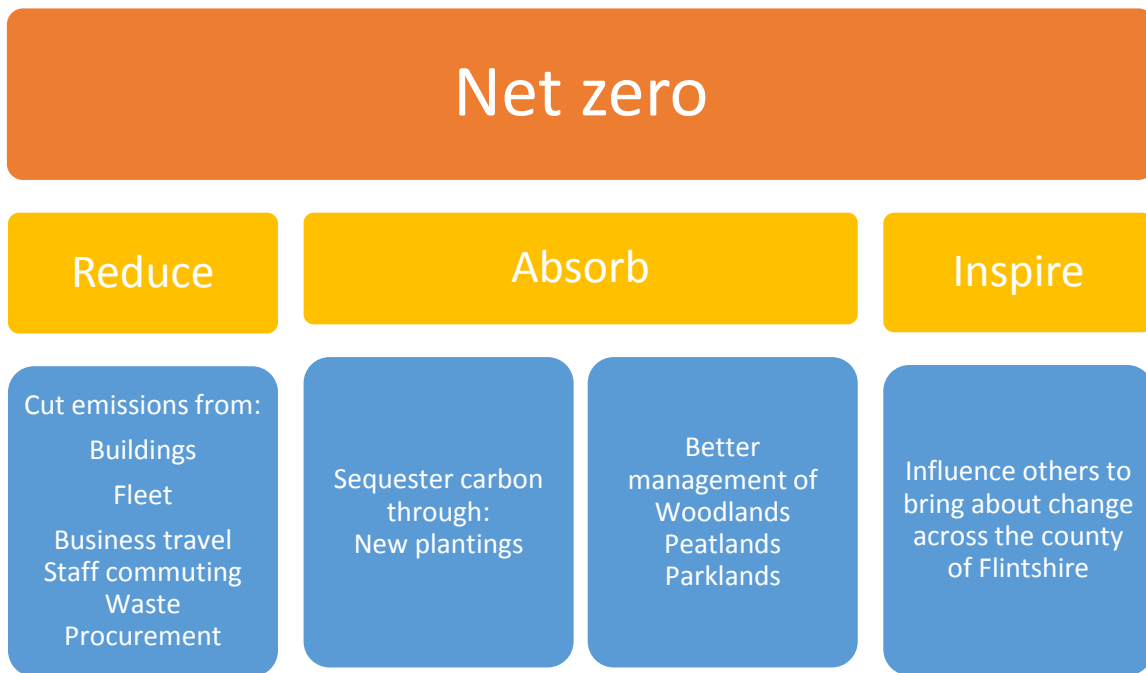
14.3 Flintshire County Council is responsible for approximately 3% of the County's GHG emissions.

¹³ most recent year data is available from Department of Business, Energy & Industrial Strategy

How the Council can influence Flintshire County's emissions

14.4 There are a number of actions that can be taken by the Council to reduce GHG emissions from the wider county. Through its leadership role, the Council can steer and influence as well as inspire individual and collective action and responsibility. Many actions such as rolling out electric vehicle charging infrastructure require a joined up, common approach which can only be brought about through joint working across boundaries.

14.5 However, collaboration and partnership working will be vital as many GHG emission sources lie outside of the Council's control and will therefore require cross sector input.



14.6 These are the actions within the key themes that do not contribute to our direct carbon footprint but that we can deliver in order to engage, influence and empower others.

15 Buildings:

Reducing energy consumption and emissions from homes and businesses in Flintshire by promoting energy efficiency measures, sustainable construction, renewable energy source, and behaviour change

- Develop plans for the decarbonisation of Council homes in line with Welsh Government guidance to ensure optimised thermal efficiency and minimised cost of heating
- Support Town & Community Councils to reduce operation's emissions and engage with our building users to encourage positive behaviour change
- Continue to deliver programmes with private households and local businesses to reduce fuel poverty and provide access to wider energy efficiency and renewable energy schemes.
- Provide support through Flood Risk Planning to businesses and households to better implement property flood resilience

16 Mobility & Transport:

- Reducing emissions from transport by promoting sustainable transport, reducing car travel and traffic congestion, and encouraging behaviour change
- Promote use of public transport, active travel, and further develop the Council's walking and cycling network
- Promote multi-modal transport journeys and the development of strategic transport hubs. Improve access to storage, charging and hiring facilities.
- Investigate further opportunities for reducing car use with consideration for local contexts and accessibility through ultra-low emission areas, car free zones and pedestrianised streets.
- Work with partners to enable greener fleet in the public transport sector (buses, rail, taxis) including Council contracted services such as school transport

17 Land Use:

- Supporting other landowners and the community to utilise green spaces and maximise carbon absorption.
- Work with Tenant farmers to share best practice on sustainable farming and increasing carbon absorption
- Explore best practice policies and encourage provision of space for community food growing in new developments and vacant and under used sites
- Undertake a land use strategy to ensure land is managed and protected for green infrastructure, decarbonisation and biodiversity benefit.
- Work with Tenant farmers to share best practice on sustainable farming, increasing carbon absorption and biodiversity value.
- Work with communities to increase biodiversity value and carbon storage
- Identify opportunities to acquire new Council land for the purpose of carbon sequestration and biodiversity enhancement

18 Behaviour:

- Supporting Council services, residents and businesses to adapt to the impacts of climate change
- Investigate the possibility of divesting pensions and other investment portfolios away from fossil fuels in support of green energy.
- Facilitate community events and activities to raise awareness of climate change and how to reduce carbon footprints.

Financial Implications

- 19.1 Flintshire County Council has invested greatly in carbon reduction over the last ten years and around £2.5 million has been invested in energy efficiency and renewable energy programmes through the interest free Salix invest-to-save programme. This investment, and the ongoing rationalisation of assets and agile working are producing financial and carbon savings in times of increasing energy prices.
- 19.2 Many Councils are under severe financial pressure with funding cuts over a sustained period reducing capacity for investment. However significant investment will be required if the Council is to achieve its goal of becoming net zero carbon by 2030. It is likely that resources will need to be diverted and increased to deliver on our ambition.
- 19.3 To deliver this strategy over the next 3 years it could cost several million with further investment needed up to 2030 and beyond. Some investment will be required through both capital and revenue to deliver on this ambition, however it should be noted that it is not expected that finance will be provided by the Council alone. External funding will be available from both Welsh and UK governments as well as other external bodies, but some capital funding will require match funding. These funding streams will need to be fully maximised to ensure net zero carbon is achieved. Restructuring of internal funds/budgets and use of prudential borrowing will be required to fund other projects.
- 19.4 Several actions within this strategy, for example pilot EV charging, already have committed funding either internally or from external sources such as Welsh Government. Energy related projects may be eligible for the Welsh Government Wales Funding Programme which offers 0% interest free loans to the public sector for energy efficiency and renewable energy projects. It may be that some of the proposed projects can be tied in with existing work streams, however additional capacity is likely to be required.
- 19.5 Further development of the Programme's action plan will estimate the level of investment needed for the interventions described and businesses cases for individual investment projects will be developed to demonstrate the potential financial savings both short and long term.
- 19.6 **Capital:** Business cases (and larger investment/capital decisions) will be developed as appropriate to support investment in decarbonisation and / or carbon sequestration activities.
Revenue: There is a recognition that project management support will be necessary to drive our move towards carbon neutrality. Business cases will also identify revenue implications.

Challenges & Opportunities

21.1 All sectors will need to work collectively to achieve climate change ambitions. This will require significant change in the way that we do things and the way we make decisions. It requires leadership at many levels and consultation both internally and with communities and businesses. General consumption will need to be reduced, land managed to better absorb carbon, longer-term planning of building homes to be adaptable to the changing climate and designing roads and transport infrastructure that is resilient to weather changes. Difficult decisions will need to be made, that are not always popular, so that we can ensure a prosperous and sustainable society for the future.

21.2 There are multiple benefits to the Council's net zero aims including health benefits due to cleaner air, warmer homes, increased walking and cycling and healthier diets. The local economy can grossly benefit from the investment in local energy and new green industries improving employment rates and social and financial deprivation. This will contribute towards the Council Wellbeing objectives 'An Ambitious Council' and 'A Caring Council' as well as the Well-being goals under the Well-being of Future Generations (Wales) Act 2015¹⁴.



Figure 8: Well-being of Future Generations Act well-being goals for Wales. www.gov.wales/well-being-of-future-generations-wales

21.3 Flintshire County council will engage with the Government to call for increased commitment and resource to support the transition to net zero carbon. While there are actions that the Council can take to reduce its emissions; new legislation, regulation, policy and finance is required from the Government to reform to a carbon neutral society.

¹⁴ Welsh Government (2015), *Well Being of Future Generations (Wales) Act. (2015)*.
<http://www.legislation.gov.uk/anaw/2015/2/contents/enacted>

Measuring & Monitoring Impact

22.1 It will be crucial that the Council monitors and evaluates its progress to achieve the targets set out in this strategy. Therefore the Council commits to:

- Measure and report carbon emissions from the Council's estate and activities each year to Welsh Government as part of its 'Welsh Public Sector Greenhouse Gas Reporting'.
- Publish performance and progress against targets annually.
- Continue to strengthen the accuracy of data collection through identification of gaps in process and emerging best practice.
- Continue to develop climate change actions and delivery plans through continued engagement internally and externally.
- Review the whole climate change strategy in 2024/25 to assess progress and areas for improvement, and align targets within the key priority areas.

Governance

23.1 The climate change strategy will be delivered as a programme of activities that is coordinated and managed centrally but has the input and involvement of all Council service areas and external partners.

23.2 Political steer for this programme will come from Cllr Derek Butler as Lead Member for Environment & Economy and Cllr Sean Bibby as Lead Member for the Climate Change Programme.

23.3 Programme progress will be monitored by the Climate Change Programme Board which is made up of representatives from each political party. This Board will be supported by Officer Groups for each theme with representation from each of the stakeholder portfolios. Progress reports will be received by the Environment & Economy Scrutiny Committee to deliver further development of the plan. Scrutiny of the programme is also available from Internal Audit as appropriate.

23.4 Key performance measures will be included in the Council Plan performance report.

Keeping others informed

24.1 We are currently developing both internal and external web pages specific to the climate change programme and the Council's progress in this area. This website will also include information and links to other sites to encourage individuals and organisations to calculate their carbon footprint and reduce their carbon emissions.

24.2 We are also developing a periodic news bulletin and you can opt in and out of this service by emailing direct to climatechange@flintshire.gov.uk

Appendix 1 - Glossary

Biodiversity: The variety of plant and animal life that make up our natural world or a particular habitat.

Carbon Dioxide Equivalent (CO₂e): the equivalent amount of carbon dioxide that would produce the same amount of global warming over a 100 year timescale.

Carbon Store: the amount of carbon stored in the natural environment such as soil, woodland, peatland etc. These may also be described as carbon sinks.

Climate Change Adaptation: Actions to help organisations and communities to prepare for the impacts of climate change.

Climate Change Mitigation: Actions to help reduce greenhouse gas emissions and therefore help to prevent further climate change.

Council assets: buildings and land owned by Flintshire County Council.

Decarbonisation: reducing the carbon intensity and greenhouse gas emissions of an activity or service or wider organization.

Direct Emissions: Emissions of greenhouse gases into the atmosphere from sources that are owned or controlled by an organization such as burning natural gas in boilers, burning petrol in owned company vehicles etc.

Green Infrastructure: A catch-all term to describe the network of natural and semi-natural features within and between our villages, towns and cities. These features range in scale, from street trees, green roofs and private gardens through to parks, rivers and woodlands. At the larger scale, wetlands, forests and agricultural land are all captured by the term.

Indirect Emissions: Emissions of greenhouse gases that are a consequence of the activities of the organization but occur at sources owned/controlled by another organization.

Lifecycle assessment: This is a cradle-to-grave or cradle-to-cradle analysis technique to assess environmental impacts associated with all the stages of a product's life, which is from raw material extraction through materials processing, manufacture, distribution, use and disposal.

Net Zero Carbon: Emissions of greenhouse gases are balanced by the removal of greenhouse gases from the atmosphere such as by trees, peatland and carbon capture and storage technologies.

Offsetting: A reduction in GHG emissions (e.g. wind turbines replacing coal) or an increase in carbon storage/GHG removal enhancement (tree planting, peatland restoration) outside of the GHG emissions boundary of an organisation that is used to compensate GHG emissions occurring within the organisation's boundary

Scope 1/2/3: Used to delineate direct and indirect emission sources to improve transparency and provide utility for organisations and climate policies. Scope 1 refers to direct greenhouse gas emissions from sources owned or controlled by the organization. Scope 2 refers to indirect greenhouse gas emissions produced from the electricity used by an organization. Scope 3 refers to all other indirect greenhouse gas emissions produced from the activities of an organization.

Sequestration: Removing carbon dioxide from the atmosphere and then storing it, usually through environmental processes such as photosynthesis, absorption by soil, oceans etc.

Welsh Public Sector Net Zero Carbon reporting guide: In response to Welsh Government's target of a carbon neutral public sector by 2030 a new Welsh GHG emissions reporting system has been developed whereby public sector organisations will report their GHG emissions annually to Welsh Government. Detailed guidance has been provided to support organisations in their calculations.

Appendix 2 - Action Plan to Net Zero Carbon

As separate document