



2030 Pen-y-bont ar
Ogwr
Bridgend 2030

Bridgend 2030 Net Zero Carbon Strategy

Cyngor Bwrdeistref Sirol



Foreword

Climate change is recognised as the biggest threat facing our planet today. Resulting in the World Health Organisation placing climate change and air pollution at the very top of its list of threats to public health. It is also why Bridgend County Borough Council (BCBC) declared its own climate emergency in June 2020, developing a Climate Emergency Response programme, with a commitment to achieve Net Zero carbon emissions by 2030 across its operations.

During the Covid-19 pandemic, the world worked together to combat the public health crisis created by a global threat. This brought to light what can be achieved when communities and organisations come together in the face of an emergency.

Building on the capacity for collaborative action that communities and organisations demonstrated during the pandemic – we are optimistic that we can work at a scale and pace needed to respond to the climate emergency.

The Bridgend 2030 Strategy and the commitments and initiatives within sets out how the council intends to achieve some of its climate aspirations.

This strategy sets out how we will enable, support, and deliver action to meet our net zero ambition. It includes six priority actions plans aimed at reducing the organisation's greenhouse gas emissions to achieve a net zero position by the 1 April 2030. We will assign a Corporate Manager as Senior Responsible Officer for each Action Plan, who will be responsible for reporting on progress to the 2030 Programme Board. The Action Plans include carbon management, buildings, transport, procurement, land use and waste.

To achieve our carbon neutral goal, we need to improve air quality, protect, and enhance our thriving green spaces, support sustainable travel, and continue to create energy efficient, good quality places to live and work to make the county borough a healthier and happier place to live.

This strategy will not be the only driver for Net Zero, it will be an integral part of the council's Corporate Plan and Wellbeing Plan, whilst policies, strategies and ongoing plans will all reflect the commitment to Net Zero. This will ensure it is fully embraced across the organisation.

We recognise that achieving our vision will not be easy. But we hope that by working collaboratively, we will have significant impact on reducing emissions to enable us to create a thriving Net Zero future for the benefit of everyone.

We encourage people who live, work, visit and invest in Bridgend County Borough to work with us on this exciting period of transformation. We will look to engage widely to understand how we can work together to achieve the ambitions set out in this strategy. Since declaring a climate emergency in June 2020, the council has not been standing still, significant progress has already been made to reduce carbon emissions both within the organisation and across the county borough, some examples of which you will see in the strategy.

The Bridgend 2030 Strategy provides a focus and direction for the decarbonisation of the council's own emissions as an organisation. However, as a council there is a critical leadership role in supporting a Net Zero transition in communities, businesses, and infrastructure across Bridgend County Borough.

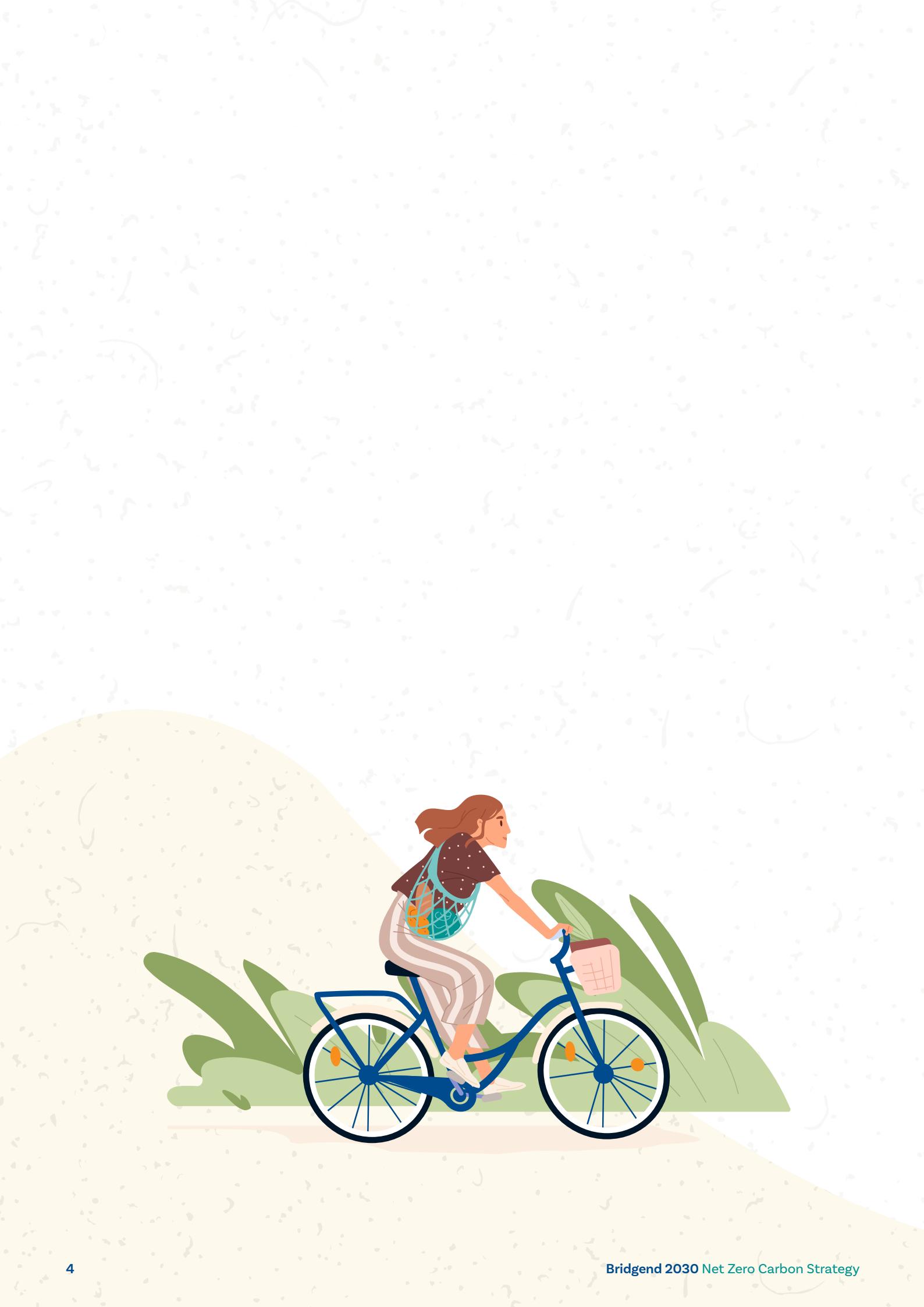
This strategy is a call to action. We recognise that we will require full support and engagement from all parts of the county borough to ensure the climate emergency can be overcome. Everyone will need to work together as one to reach Net Zero and support the wellbeing of future generations in Wales.

Mark Shephard

Chief Executive, Bridgend County Borough Council

Councillor Huw David

Leader of Bridgend County Borough Council



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The Climate Emergency in Wales

Immediate and bold action to tackle climate change is more crucial now than ever before.

There is now unprecedented political recognition of a global Climate Emergency. In October 2018 the Intergovernmental Panel on Climate Change (IPCC) released a report detailing the short amount of time we have left to tackle widespread climate breakdown. They stated that we have until 2030 to cut our carbon emissions to a level that limits global warming to a maximum of 1.5°C above pre-industrial levels. This has culminated in the Paris Climate Change Agreement in COP 15, in which 189 countries united to ratify a legally bound commitment to act to limit global temperature rise this century¹, and now in the recent COP 26 meeting in Glasgow, in October 2021, specific climate change mitigation actions are agreed to stop deforestation, cut methane, and end coal emissions.

The five warmest years on record have occurred in the five years succeeding the Paris Agreement.

Climate change is recognised as the most significant threat to the health of humanity on a global scale. We are already seeing consequences of 1°C of global warming in Wales through rising sea levels, more extreme weather, flooding and the warmest winter on record in Wales in 2019. The State of the UK Climate Report 2020 prepared by the Met Office set out that in the space of 30 years, the UK has become 0.9°C warmer and 6% wetter.

In April 2019, with cross-party support, the Senedd was the first Parliament in the world to declare a Climate Emergency².

Increased public awareness has led to calls for greater action to be taken to tackle climate change. This has also led to growing pressure on governments and businesses to act rapidly to mitigate climate change, calling for the UK and devolved governments to formally declare a Climate Emergency. Wales declared its Climate Emergency in April 2019.

To lead the way on climate action in Wales, Welsh Government has legislated for a Net Zero Wales by 2050 with the public sector leading by example to be Net Zero by 2030³.

Since the Climate Emergency declaration in April 2019, Welsh Government has accepted the Climate Change Committee's recommendation to increase Wales's 2050 emissions target⁴.

In March 2021, Welsh Government published the 'Climate Change (Wales) Regulations 2021'⁵. These updated the initial 80% target to a net zero emission, which is a 100% legislated requirement by 2050. The updated Regulations also set the requirement for a 63% Wales-wide emission target by 2030 (increased from 45%).

The public sector has a critical leadership role to play on the journey to Net Zero. In recognition of this, Ministers have set the target for the Welsh public sector to achieve Net Zero status by 2030. Welsh Government have published a route map for decarbonisation across the public sector⁶ to provide overarching guidance. Alongside this, progress to Net Zero will be tracked by yearly public sector carbon accounting⁷.

Bridgend County Borough Council has committed to the Net Zero 2030 target as an organisation and recognises the leadership role to enable wider Net Zero for businesses and communities in the county borough.



Bridgend's Declaration of a Climate Emergency

As the UN Climate Change Conference (COP 26) was underway in Glasgow in October 2021, Welsh Government released its second carbon budget to progress towards Net Zero emissions, 'Net Zero Wales Carbon Budget 2 (2021-25)⁸. This plan further underpins the public sector's role in a 'Team Wales' approach to achieving Net Zero.

A summary of Welsh Government legislation, strategies, and ambitions to drive carbon reduction activity in Wales is shown below.

Legislation	Strategy	Ministerial ambition
Well being of Future Generations (Wales) Act 2015	Prosperity for All - Economic Action Plan (2017)	Net zero Public Sector by 2030
Environment (Wales) Act 2016	Prosperity for All - A Low Carbon Wales (2019)	70% of Wales electricity consumption to be renewable by 2030
The Climate Change (Carbon Budgets) (Wales) Regulations 2018	Prosperity for All - A Climate Conscious Wales (2019)	1GW of electricity generated in Wales to be locally owned by 2030
	Programme for Government 2021 - 2026 (2021)	All new developments by 2020 to have an element of local ownership

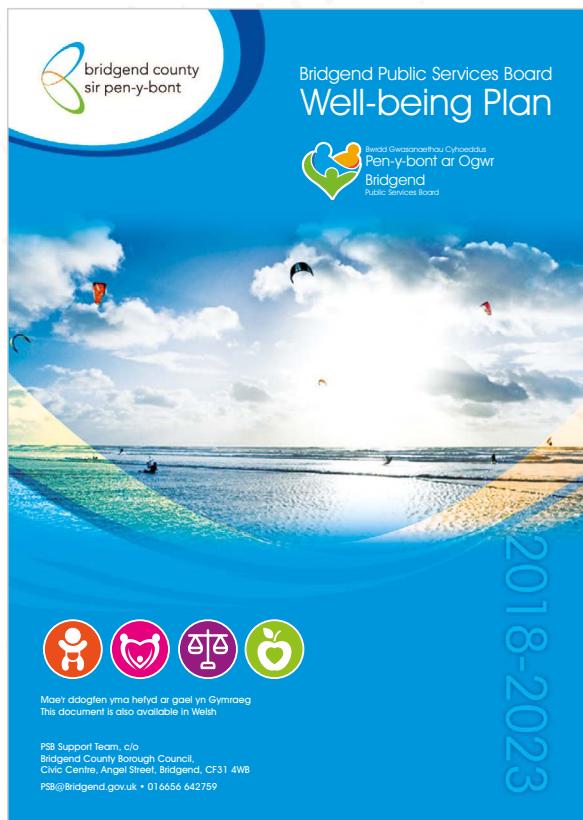
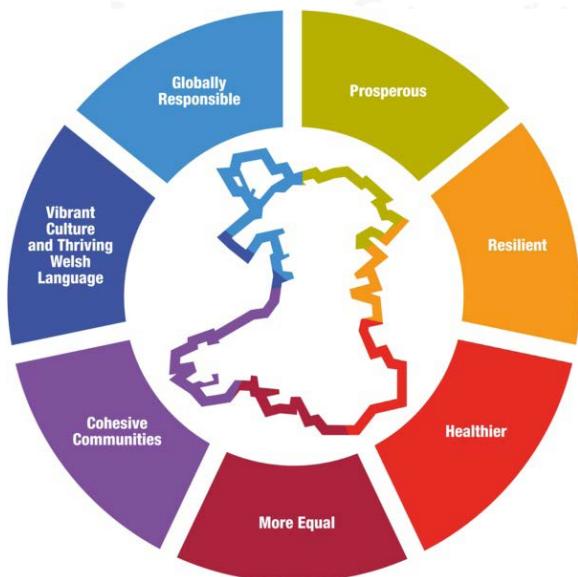


Bridgend's Climate Emergency Response Programme

Bridgend County Borough Council (BCBC) declared its own climate emergency in June 2020 and set up its Climate Emergency Response programme. This has a commitment to achieve Net Zero carbon emissions by 2030 across its operations. This Bridgend 2030 Net Zero Carbon Strategy ("Bridgend 2030 Strategy") is the initial strategic step in achieving this commitment. Importantly, this strategy will not be the only driver for Net Zero, it will be an integral part of the council's Corporate Plan and Wellbeing Plan, whilst policies, strategies and ongoing plans will all reflect the commitment to Net Zero. This will ensure it is fully embraced across the organisation.

The council's Corporate Plan⁹ highlights 'decarbonisation and environmental sustainability' as a priority area for the council up to 2023. Alongside this, the Council ensures that the climate is considered at an everyday decision-making level. This is underpinned by The Well-being of Future Generations (Wales) Act 2015 and the Bridgend Public Service Board Wellbeing Plan¹⁰.

“One Council working together to improve lives”



What have we achieved to date?

Since declaring a Climate Emergency in June 2020, the council has not been standing still. Significant progress has already been made to reduce carbon emissions in the council and county borough with active projects (excluding new school buildings), totalling circa £20m. An example of an active project is the Re:fit Cymru energy efficiency retrofit programme which will provide £1.17m of investment across 19 buildings in its current phase.

A summary of recent and active schemes progressing decarbonisation across the themes of buildings, transport, land use and procurement are shown in the table below.

Transport	Buildings	Land Use	Procurement
LED street lighting	Re:fit Cymru -retrofit programme	Coastal protection Scheme	Regional procurement networks
Porthcawl - New Bus Terminus	Bridgend District Heat Network	Extending area of Local Nature Reserves	Green energy tariffs
Civic Centre - 8 charging points	Bryncethin Depot - PV, LED & Battery Storage	Feasibility - land-based renewables	Socially Responsible Procurement Strategy
ULEV infrastructure	Roof mount Solar PV - multi-site	Tree planting - I-Tree eco study	
Active Travel provision	21st Century Schools Programme	Local Development Plan update	

Climate resilience – How are we preparing?

Alongside the work of the 2030 strategy and the efforts to reduce the carbon baseline, the Council is also actively engaged in other projects to increase our overall climate resilience in the county borough. This includes the following: -

- Developing a Flood Risk Strategy, investing in flood prevention equipment and the investment of £6m in the coastal flood defences at Porthcawl.
- Ensuring that we implement the new Sustainable Draining Systems and that all new developments have appropriate attenuation and drainage systems such as green roofs or natural drainage systems.
- Increasing our Tree Canopy Cover and Biodiversity Schemes, including planting 10,000 trees in the Borough in 2021/22 as part of the Queens Green Canopy project.

Sustainable Recovery from the pandemic

The COVID-19 pandemic has drastically changed the economic and social context in Wales, the UK and globally. This will, in turn, affect how the transition to a Net Zero carbon position is planned.

By drawing on the principles set out in the Well-being of Future Generations Act, the Welsh Government have produced the Economic Resilience and Reconstruction Mission¹¹ which outlines the pathway to recovery following the pandemic.

The mission sets three targets: ‘prosperous’, ‘green’, and ‘equal’ as outlined in the diagram below. It aims to create a just, green recovery – addressing the socio-economic impacts of the pandemic while simultaneously tackling the Net Zero challenge.



This Bridgend 2030 Strategy and the commitments and initiatives within will support a just and green recovery for the county borough from the pandemic.

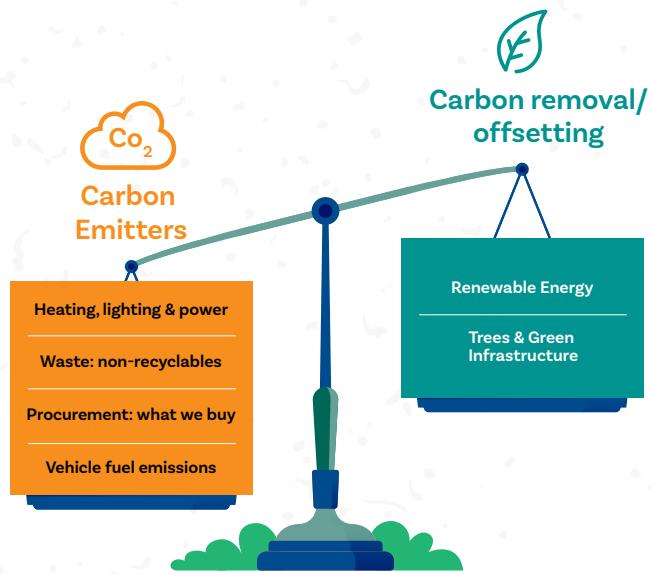
The response to the pandemic has demonstrated how significant and impactful change can be enforced into the day-to-day life of the public and the approach to work. The council undertook an additional assessment of its carbon footprint for 2020/21 to understand the impact of the pandemic on operations. It demonstrated that remote working during

the Coronavirus lockdown within this period reduced fleet and business travel emissions by 16% and 47% respectively, and reduced emissions in buildings by 20% across the estate. With the pandemic demonstrating that rapid and significant societal change is achievable, the goal now must be to stir similar urgency and commitment to tackle the Climate Emergency.

Carbon Neutral by 2030 – What does this mean?

Carbon neutrality or Net Zero Carbon means balancing the greenhouse gas emissions we produce with the number of gases we are removing from the atmosphere. This is shown in the diagram below. Currently, the world is producing more greenhouse gas emissions than it absorbs which is causing global warming and climate change.

Carbon neutrality, or having a net-zero carbon footprint is the balancing of carbon emissions against carbon removal, often through carbon offsetting, with the net result being zero.



What is Bridgend's Carbon Footprint?

The council commissioned a carbon footprint assessment for its own operations. This is shown below and provides a baseline to measure performance against the 2030 Net Zero target.

Total Bridgend Council Carbon Emissions 2019/20:

**90,241 tonnes
CO₂e**

The council carbon footprint from 2019/20 has been calculated as approximately 90,241 tonnes of CO₂e, using Welsh Government Carbon Reporting methodology. This represents around 0.23% of Wales's total greenhouse gas emissions¹².

Welsh Governments Carbon Reporting looks at emissions being attributed to the three categories or scopes: -

Scope 1

Direct Emissions - are those that occur from an organisation at source, for example by heating buildings or from the exhausts of vehicles.

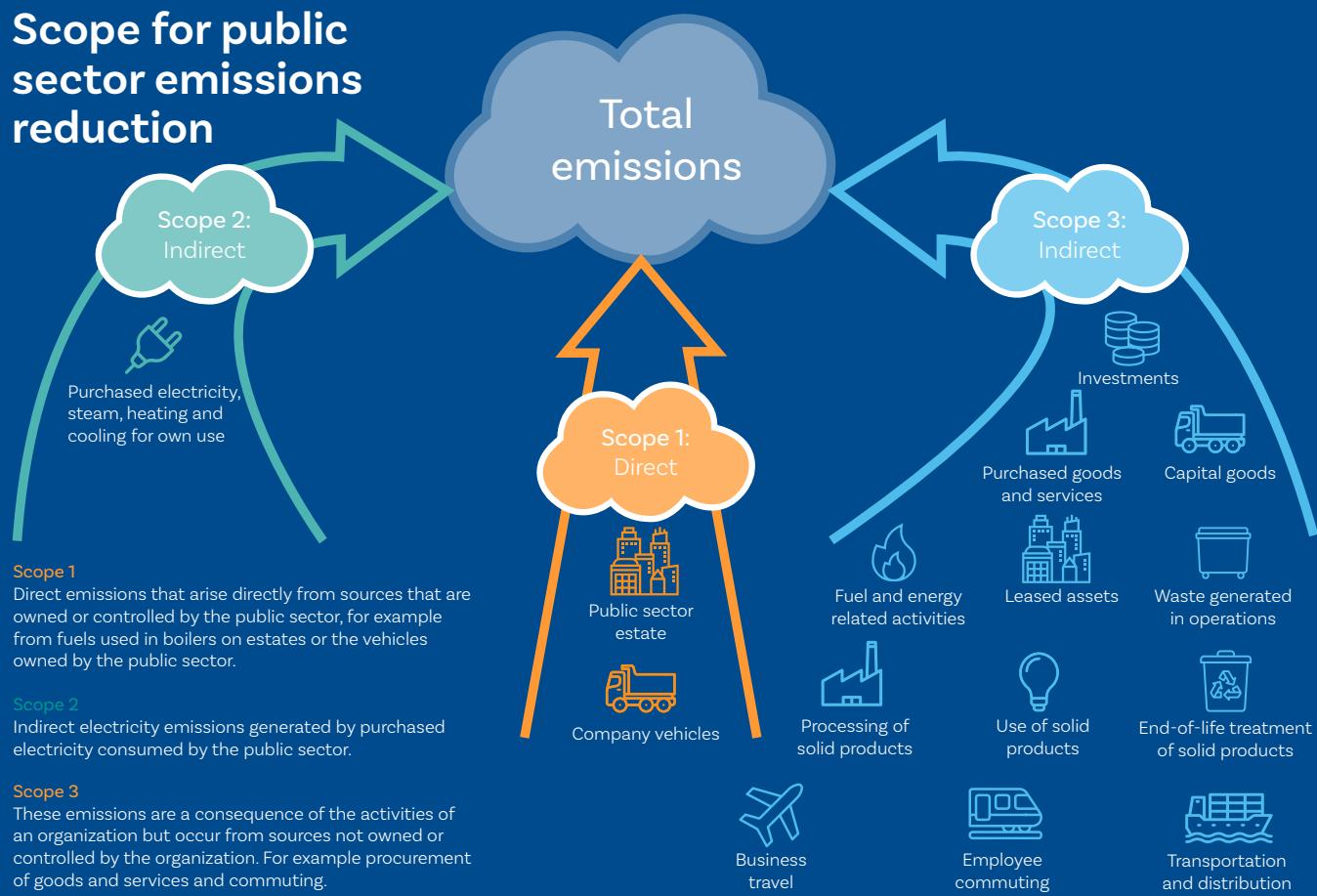
Scope 2

Indirect Emissions - are those that occur mainly from electricity used in our activities but where generation and associated emissions are elsewhere.

Scope 3

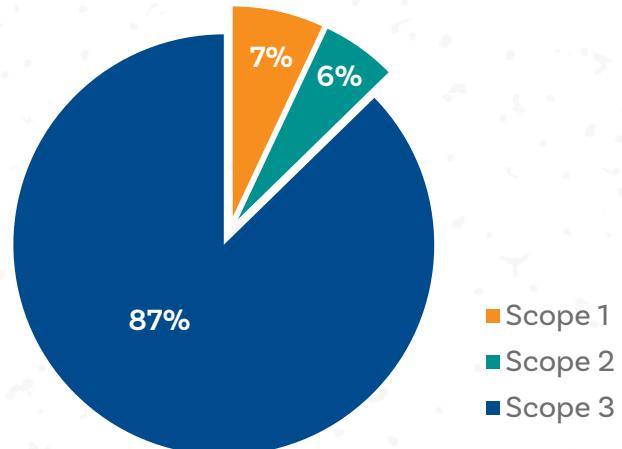
All other indirect emissions - this covers emissions associated with areas such as procurement, staff commuting and direct waste.

Scope for public sector emissions reduction



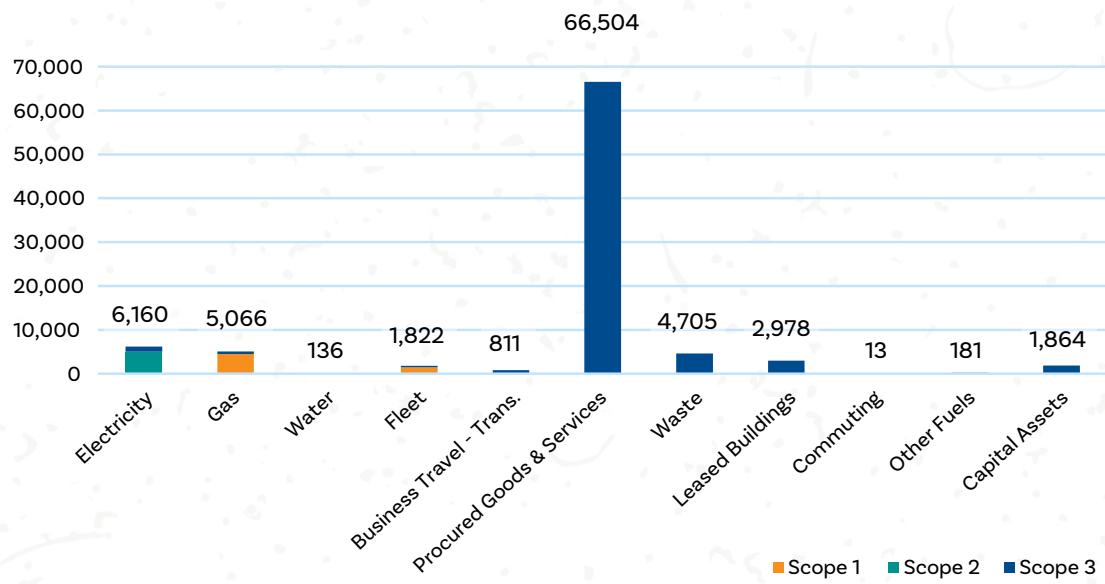
The diagram below illustrates what percentage of the council's emissions are in which Scope. As is evident below, Scope 1 and 2 contain the lowest levels of carbon emissions, whilst 87% of the Council's emissions come via Scope 3. These are indirect emissions in areas including the supply chain, business travel, commuting and direct waste.

Total BCBC Emissions by Scope 2019/20



When we examine further the Council's carbon emissions by source, it becomes clear that one area, in particular, generates over two-thirds of the Council's emissions; the procurement of goods and services. The graph below shows the further categorisation of the footprint by emissions source, effectively outlining all areas of the Council's operations that are included within the carbon footprint calculations as directed by the Welsh Government.

BCBC Carbon Emissions by Source (tCO₂e)



The Council recognises that there is a need to improve data accuracy and coverage in some areas of its Carbon Footprint assessment. The requirement for ongoing data improvement is needed, in particular for business travel and employee commuting related emissions.

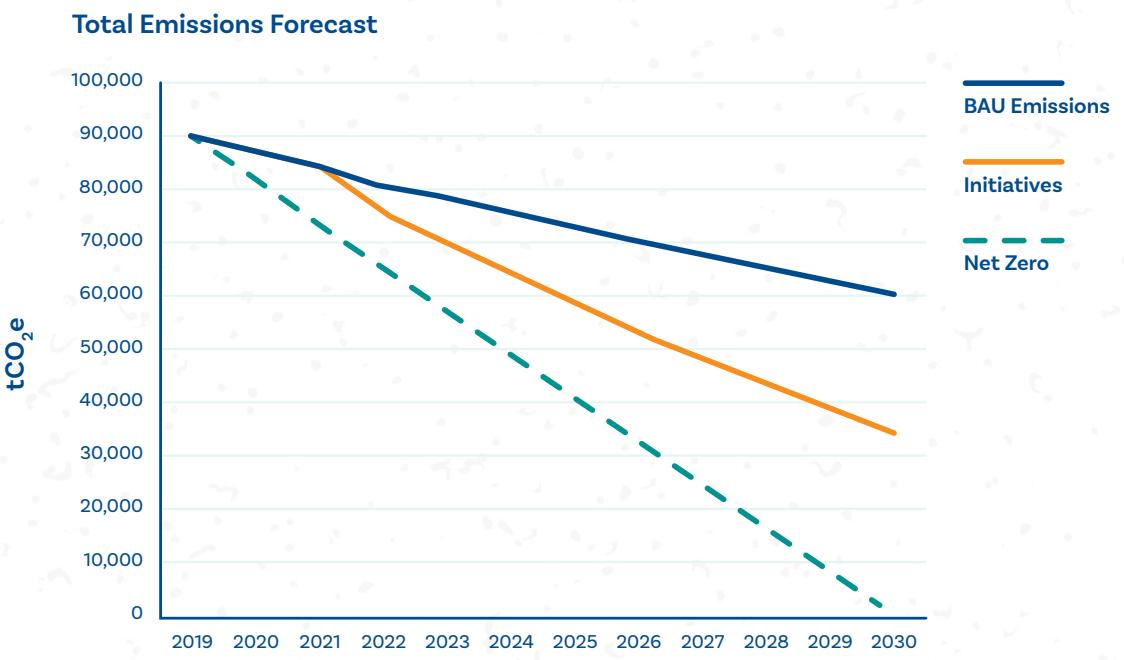
Carbon Management Plan

Working with The Carbon Trust, the council has been able to calculate its total carbon emissions from its activities in 2019/20 as a baseline figure of 90,241 tonnes. This has been achieved by using actual measurements where they were available. However, some areas like the current level of sequestration (carbon offset from natural features) across the council-owned estate have not been possible to calculate at this point.

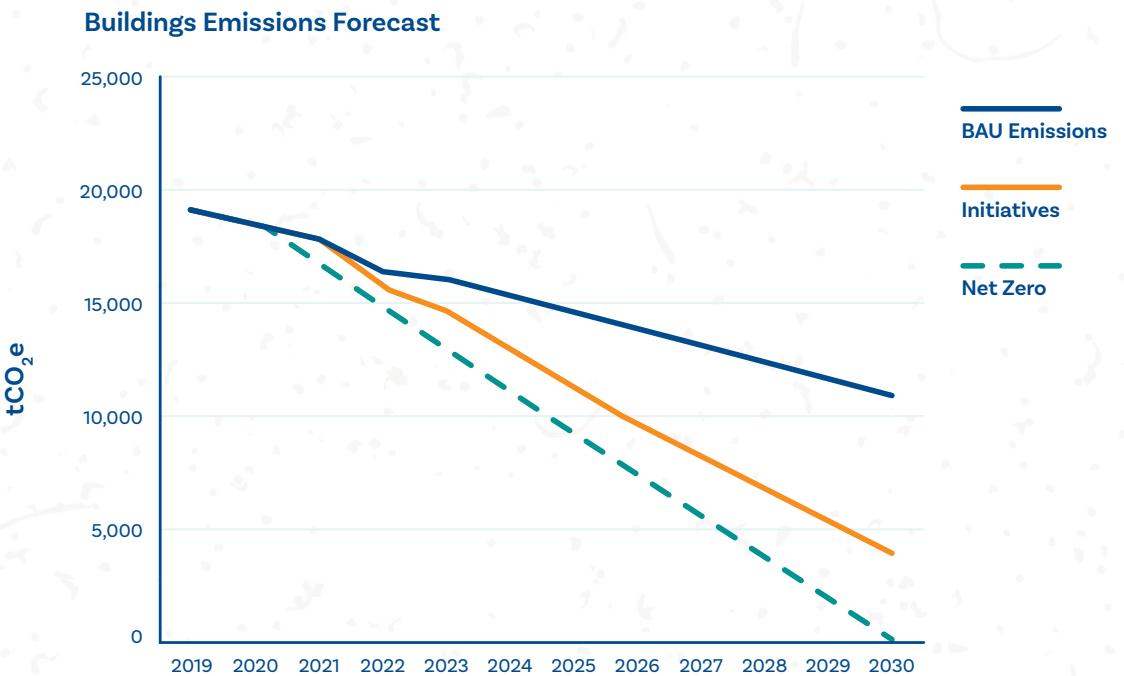
It is recognised that it will not be practical or possible for the council to stop all carbon emissions entirely from its operations. This will be the same for all local authorities across Wales. The council must strive to reduce its emissions as far as possible before using offsetting measures as the final step to Net Zero.

This calculation is called the “Gap to Target”, which is the gap that will require offsetting measures. A gap to target has been estimated in 2030 as 34,155 tCO₂e. This represents the council’s estimated residual carbon emissions in 2030, plus the initiatives that were unquantifiable at this point in terms of carbon savings. The council will need to offset the remaining carbon emissions using the correct and approved methods. The graph below gives a visual representation of these savings as the council ‘Decarbonisation Pathway’ to 2030. A business-as-usual (BAU) and Net Zero 2030 pathway have also been included for context.



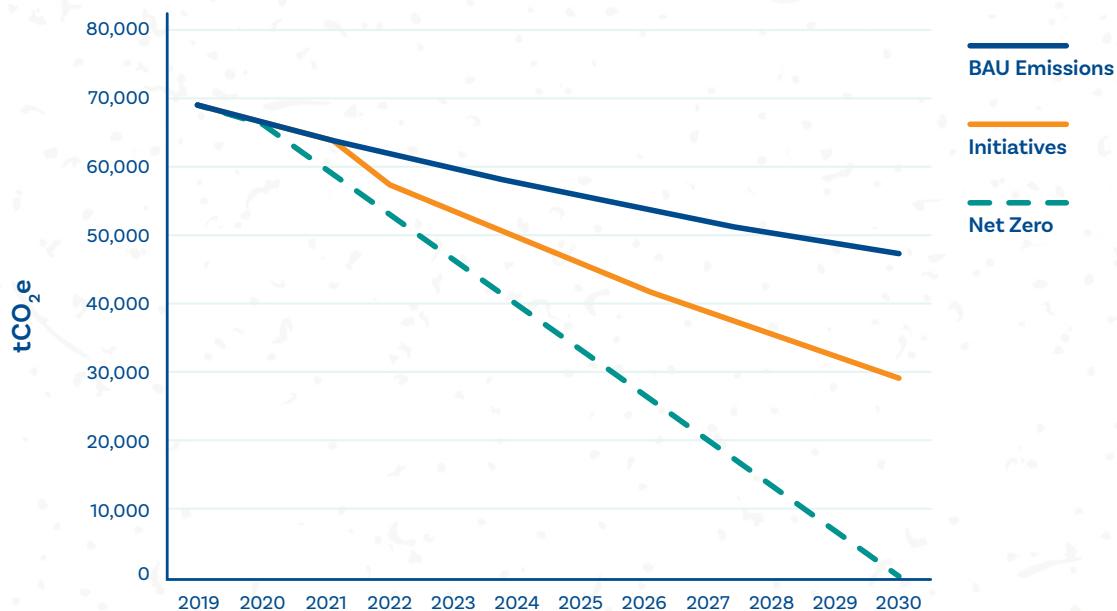


Further decarbonisation pathways are outlined below for supply chain, buildings and transport emissions. These represent in more detail the high-level modelling that is been undertaken as part of this strategy. The Council recognises that further, more detailed ‘bottom up’ modelling will need to take place as it continues the journey to Net Zero 2030.

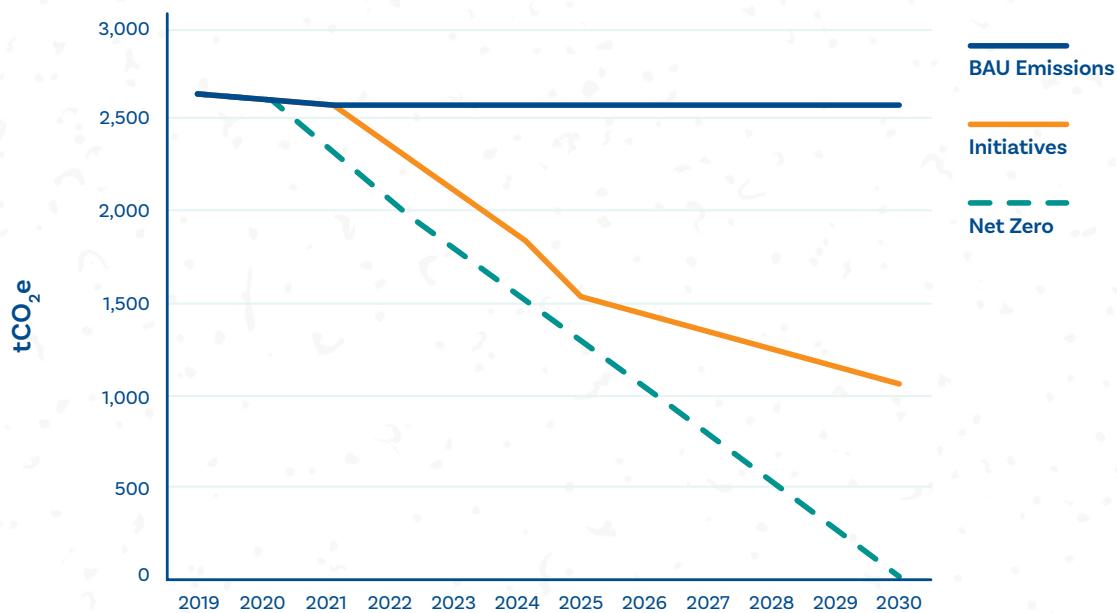


Buildings include - Electricity, Gas, Other Fuels, Water and Waste projections.

Procurement Emissions Forecast



Fleet & Business Travel Emissions Forecast



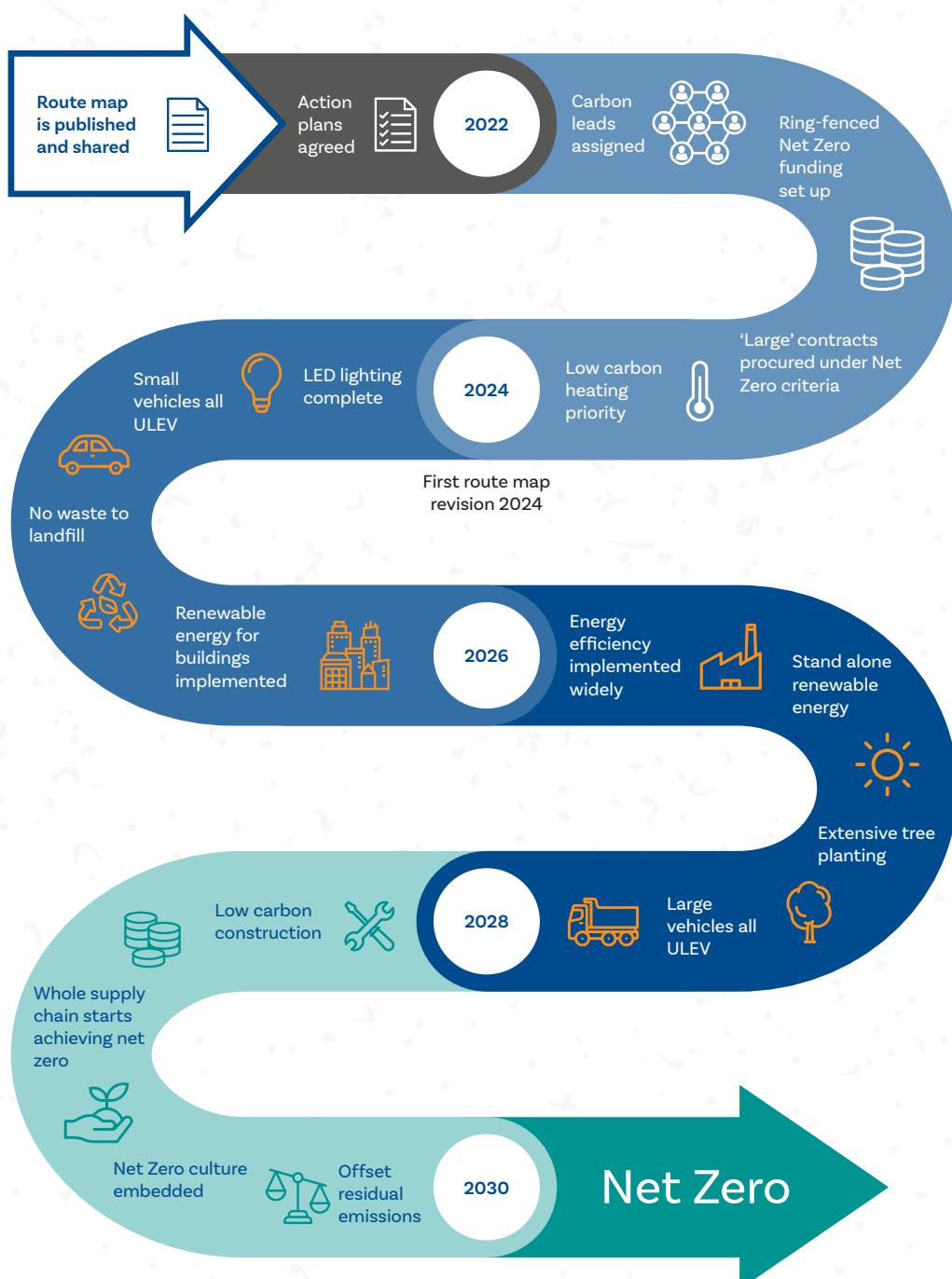
Bridgend's Net Zero Commitments

The council has aligned its Net Zero target with the Welsh Government ambition of achieving a Net Zero public sector by 2030. This will require understanding the priorities, costs, stakeholders and wider impacts of actions associated with council operations, whilst improving understanding of the public sector's role in influencing change in society and the wider economic system. The council's eight Bridgend 2030 commitments are as follows:-

Commitment 1	The council will demonstrate leadership and commitment to deliver the Bridgend 2030 Net Zero Carbon Strategy, to address the Climate Emergency as declared by Welsh Government, the Senedd and the council.
Commitment 2	The council will integrate low and zero-carbon behaviours throughout the organisation and carbon impact will become a key consideration in all strategic decisions.
Commitment 3	The council will decarbonise its built estate by 2030 with a strong focus on energy efficiency, low carbon heating and on-site renewable generation.
Commitment 4	The council will undertake a programme of fleet renewal to ultra-low emission vehicles, such that all vehicles are ULEV by 2030.
Commitment 5	The council will promote active and low-carbon travel options throughout its own operations.
Commitment 6	The council will decarbonise its procurement activity by engaging the supply chain, supporting and mandating suppliers to decarbonise, and progressing sustainable, local procurement practices.
Commitment 7	The council will ensure its land holdings are developed and maintained to support Net Zero objectives through high levels of carbon sequestration and biodiversity.
Commitment 8	The council will decarbonise its waste streams by ending landfill use and adopting a reuse culture alongside sustainable methods of disposal.

Route map to a Net Zero Bridgend

The route map below lays out key milestones that need to be achieved on the way to 2030 and a fully Net Zero Council. It is ambitious and will be challenging to achieve, with partnerships integral to an effective delivery. Detailed Actions plans have been prepared against the eight 2030 Corporate Commitments and these are set out in Appendix 2.



Next Steps to achieving Bridgend 2030

The is no doubt that the Bridgend 2030 Strategy is ambitious in its commitments and will be equally challenging to deliver. Key to this will be ensuring that a robust and effective governance structure is in place to make decisions, sustain momentum and action over the long term and monitor and review progress against our carbon reduction plans. The implementation of this strategy is detailed in Appendix 1.

It is also critical that focus is placed on putting the actions presented within the strategy into motion immediately. We will use the content and quantifications (energy, carbon and cost-saving potential) developed through our work with the Carbon Trust and included throughout this document, as a building block for the development of detailed business cases for action going forward. The Action Plans that build on the eight Bridgend 2030 Commitments are included in Appendix 2.

It must also be recognised that access to additional resources and finance is critical to ensure the success of the 2030 Strategy. Whilst many projects are already resourced and funded via the Council's Capital Programme or external grant schemes and providers, such as UK Government, Welsh Government and the Cardiff Capital Region, there will be a requirement for additional resources in the future to deliver new initiatives or schemes. The Council will continue to identify partnership opportunities and funding streams to progress this decarbonisation agenda.

We will review our Action Plans annually to include new projects as they are developed and approved and to monitor and measure progress both on emission reduction but also against a broader spectrum of sustainability and wellbeing metrics. By reviewing annually, we can ensure a dynamic response and evolving action plans that reflect the needs and priorities of the county borough and its residents. However, much progress can still be made by championing decarbonisation within the decision-making processes of the Council, and by integrating this into corporate behaviours.

This Bridgend 2030 Strategy provides the direction for decarbonisation of the Council's own emissions as an organisation. However, as a Council there is a critical leadership role in supporting a Net Zero transition across the communities, businesses, and infrastructure for the county borough. It is recognised that the Council will require full support and engagement from all parts of the county to ensure the climate emergency can be overcome. Everyone will need to work together as one to reach Net Zero and support the well-being of future generations in Wales.



Appendix 1

Bridgend 2030 Implementation Plan

Strategy Governance

The council has identified that governance and engagement are essential for a successful decarbonisation strategy. To deliver the strategy, organisational change is required to maintain a focus on long-term decarbonisation and carbon management. This section describes the actions the council will undertake to embed decarbonisation into the organisation.

The Decarbonisation 2030 Programme Board will be maintained to oversee and track progress to Net Zero Carbon by 2030. The Programme Board will be Chaired by the Cabinet Member for Communities and led by the Corporate Director of the Communities, and the Decarbonisation Programme Manager will oversee the overall organisation and delivery of the strategy.

Carbon Leads

The council will assign each activity stream a 'Carbon Lead' to ensure that every area is represented across the organisation. Carbon leads will review progress against existing action plans and report back to the Decarbonisation 2030 Programme Board on an annual basis. A 2030 Steering Group will also be formed and will be led by the Decarbonisation Programme Manager. The 2030 Steering Group will meet on a more regular basis with the aim to bring together all carbon leads to encourage continual collaboration across the organisation.

The Carbon Lead's aim is to support the Decarbonisation 2030 Programme Board in understanding the progress made against the commitments within the strategy. The initiatives included within the activity streams will often provide carbon reduction across several of the activity streams. Carbon leads will also be required to drive and empower decarbonisation initiatives in their departments.

Carbon Management and Waste will be included as additional programme areas, alongside Transport, Buildings, Land Use and Procurement.



Action plans

Defined action plans will form the basis of the council's decarbonisation initiatives to achieve Net Zero. Strategic initiatives are listed within the action plan section against each of the defined activity streams. The council has highlighted the following activity streams to focus decarbonisation efforts. Carbon Leads for each activity stream will be responsible for driving progress against the action plans and maintaining momentum.

1. Carbon Management
2. Buildings (Existing buildings & new builds)
3. Transport (Business travel and commuting included)
4. Procurement
5. Land Use
6. Waste

The council recognises the challenge that achieving Net Zero by 2030 poses to normal operations and delivery of service. It should be noted that all decarbonisation initiatives presented in the action plans (Appendix 2) within this report will be subject to resource, finance availability and an individual business case assessment. Initiatives are ambitious to drive the transformational change within the organisation that is required to achieve a Net Zero future.

Monitoring and evaluation

Once the Bridgend 2030 Strategy is adopted, measuring progress will be an essential part of its implementation. Ongoing monitoring is crucial to understand if the strategy is on track. Evaluation of the action plans will

take place annually within the agreed timeframe. This will help the council to identify whether objectives have been met, alongside its impacts and lessons learned from the initiative. It is also recognised that the decarbonisation sector is developing rapidly. It is likely that in the time up to 2030 that new innovative technologies and solutions will come into the mix that may have not been considered at the time of this report. With that in mind, this Bridgend 2030 Strategy will be reviewed in full in 2024 and 2027, to update against the fast-moving sector.

Stakeholder engagement

Robust engagement with stakeholders from across Bridgend County Borough will be crucial for successful climate action. The Council will continue to explore innovative ways through which the whole organisation can contribute towards achieving Net Zero by 2030. It should ensure that an effective engagement strategy that actively involves all council departments and employees is drawn up. Achieving the greatest possible input and buy-in will allow the Council to work closely with key stakeholders to identify the areas of the council that need to be prioritised to reduce emissions. It will need to remain transparent throughout all engagement activities, to grant stakeholders the opportunity to contribute towards the decarbonisation initiatives that they intend to implement across the estate.

Next steps to achieving Bridgend 2030

The council should focus on the following to deliver its Bridgend 2030 Strategy: -

- Continue to engage with departments across the council and produce an internal list of stakeholders to repeatedly engage with.
- Form a '2030 Sub-Committee' to unite carbon leads from each department to ensure a collective approach is achieved across BCBC on a continual basis.
- Communicate with external stakeholders on the continual development of the Bridgend 2030 Strategy up to 2030 itself.

BCBC mobilisation and management initiatives

The following table outlines the mobilisation and management initiatives that the council will adopt to ensure action is taken to achieve decarbonisation across the organisation by 2030.



1	A Decarbonisation 2030 Programme Board will remain in place to oversee the implementation of the Bridgend 2030 Strategy.
2	A ‘Decarbonisation Programme Manager’ will remain in place as a dedicated role to drive the focussed implementation of the Bridgend 2030 Strategy.
3	A ‘2030 Steering Group’ will be formed to bring together carbon leads from each activity stream to ensure a joined-up approach is achieved across the council.
4	Carbon leads will be appointed for each activity stream and will be responsible for reviewing progress against action plans and reporting back to the ‘2030 Programme Board’.
5	The action plans will form the basis of how the council will reach Net Zero – action plans will be reviewed and updated annually.
6	The council will enable successful implementation of the Bridgend 2030 Strategy by identifying additional resources and finance for delivery through a robust business planning regime to scale up and accelerate implementation of initiatives.
7	A ring-fenced financial allocation will be created for decarbonisation. This will be used for developing specific projects and levering in additional external finance.
8	The council will include a defined mission statement on its decarbonisation ambitions as a distinct corporate objective; CMB, CCMB and council Boards will give high importance to decarbonisation in all investment decisions.
9	The council will issue at least two revisions on the Bridgend 2030 Strategy in 2024 and 2027 to update against the rapidly changing landscape of the decarbonisation sector.
10	The council will engage with departments in the council to produce an internal list of stakeholders to support collaboration and share expertise across all activity areas on Net Zero.
11	The council will communicate and collaborate with external stakeholders (e.g. health board and local service board) on the progress of the Bridgend 2030 Strategy.



Appendix 2 - Bridgend 2030 Action Plans

2030 Actions Plans

This appendix contains six action plans that will deliver the Bridgend 2030 Strategy and reduce the greenhouse gas emissions of the organisation in order to get to a Net Zero Position by the 1 April 2030. Each Action Plan will have a Corporate Manager as Senior Responsible Officer and will report on the progress of the Action Plan to the 2030 Programme Board.

These include the following: -

- Action Plan 1 – Carbon Management
- Action Plan 2 – Buildings
- Action Plan 3 – Transport
- Action Plan 4 – Procurement
- Action Plan 5 – Land Use
- Action Plan 6 – Waste

It is the intention to review these plans annually in order to track the progress against the carbon baseline, monitor effectiveness, resource appropriately and include new initiatives, technology and projects as they arise.



Action Plan 1 - Carbon management

To achieve Net Zero emissions by 2030 a complete culture shift will be required across all council operations. The council recognises that a joined-up approach is needed, and all departments will need to work together to achieve the decarbonisation goals. Carbon impact and sustainability will become a key metric in the decision-making process. The following table outlines the initiatives the council will undertake to implement effective carbon management across the organisation.

Carbon Management Initiatives

CM1	The council will appoint a technical expert in 2022 to undertake a more specific ‘bottom-up’ reduction pathway, providing more detailed carbon and financial modelling results for the agreed Action Plans in the 2030 Strategy.
CM2	Carbon impact and implications to be included in all council business cases for investment, integrated with the wellbeing of future generations assessment.
CM3	The decarbonisation agenda will be proactively communicated to staff to support the uptake of low-carbon behaviours.
CM4	Carbon Literacy training will have been completed by the end of the 2022/23 financial year and the training will be integrated into standard HR processes, such as e-learning modules.
CM5	All council job descriptions will be updated to include the general carbon responsibilities of employees and selected key council job descriptions will include defined carbon responsibilities as part of their role within the council.
CM6	Through its participation in the Local Government Pension Scheme, BCBC acknowledges that climate change and carbon emission management is one of the risk factors of responsible investment and will support and actively monitor the delivery of the Fund’s commitment to an orderly carbon transition and its active engagement with investee companies to reduce carbon exposure across the Pension Fund.
CM7	Utilise the Welsh Government Public Sector Carbon Reporting Guide to report annually the Carbon Footprints of council’s operations, this will form the basis for tracking progress against the Net Zero 2030 target.

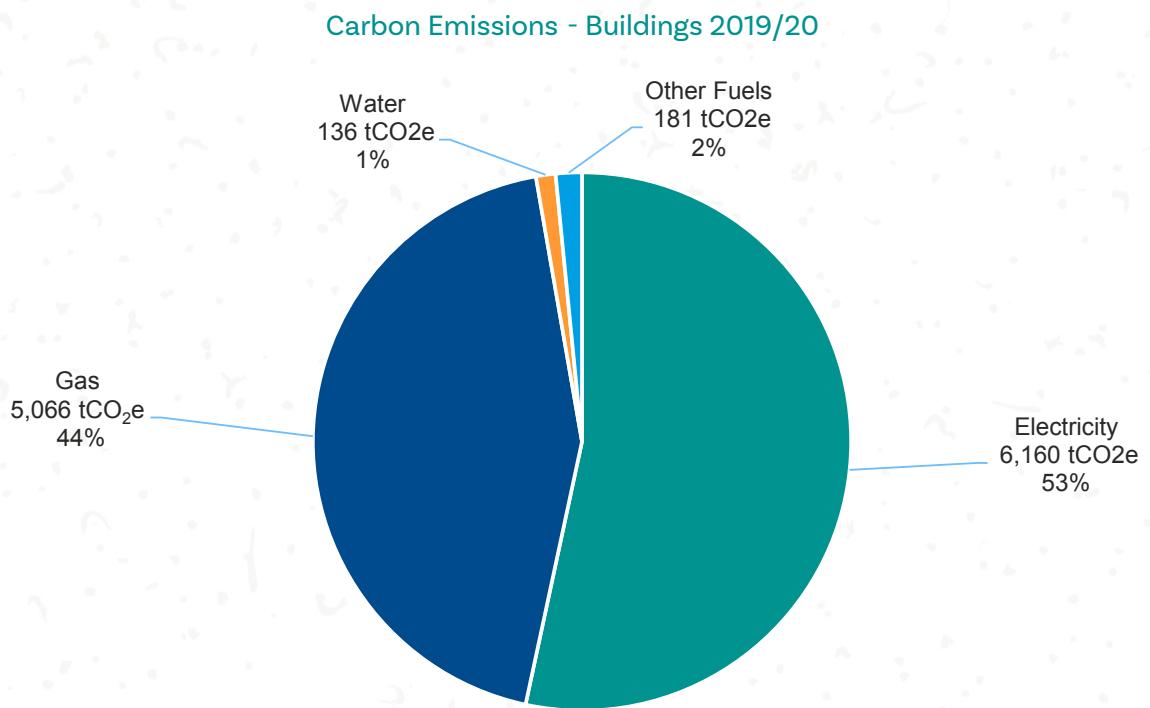
Action Plan 2 – Buildings

Carbon emissions associated with the operation of buildings represents the second biggest contributor to the council's carbon footprint, behind the procurement of goods and services.

The chart below shows a breakdown of total emissions in buildings split by water, gas and electricity usage across the owned estate. Electricity is the greatest carbon emitter in buildings (53%) with gas close behind (44%). Water usage and other fuels are relatively low in comparison but should not be ignored.

The council will need to focus on improving energy efficiency and developing onsite generation projects throughout the estate to effectively decarbonise this area.

The approach to new buildings has also been addressed. The closer a new building can be built to Net Zero standards now mitigates the need for additional retrofit projects down the line.



The action plan for existing and new buildings are presented in the next 2 pages.

Building initiatives

B1	The council will progress a transformational energy and water efficiency retrofit programme across its estate – every building will have undergone a multi-technology energy efficient upgrade by 2030.
B2	The council will undertake and commission surveys to collate a full asset & conditions list of energy consuming equipment across its built estate by end of 2023.
B3	The council will complete expert low carbon heat studies for all large strategic sites to set the plan to transition away from fossil fuel heat sources.
B4	Decommissioning of traditional boilers will be preferred over replacement, with low carbon heat solutions appraised and prioritised within the business case process.
B5	Legacy lighting will only be replaced with modern LED alternatives; all lighting will be LED by 2030
B6	All buildings will be assessed to have standardised, effective building management systems including a dedicated central resource to optimise energy use across the built estate on a consistent basis.
B7	The council will complete surveys to understand the overall viable potential for onsite renewable energy generation across the estate, by 2026 half of this potential should be installed, with the remainder by 2030.
B8	The council will work closely with schools to develop a plan to better deliver carbon reduction in these buildings.

New builds and major refurbishment initiatives

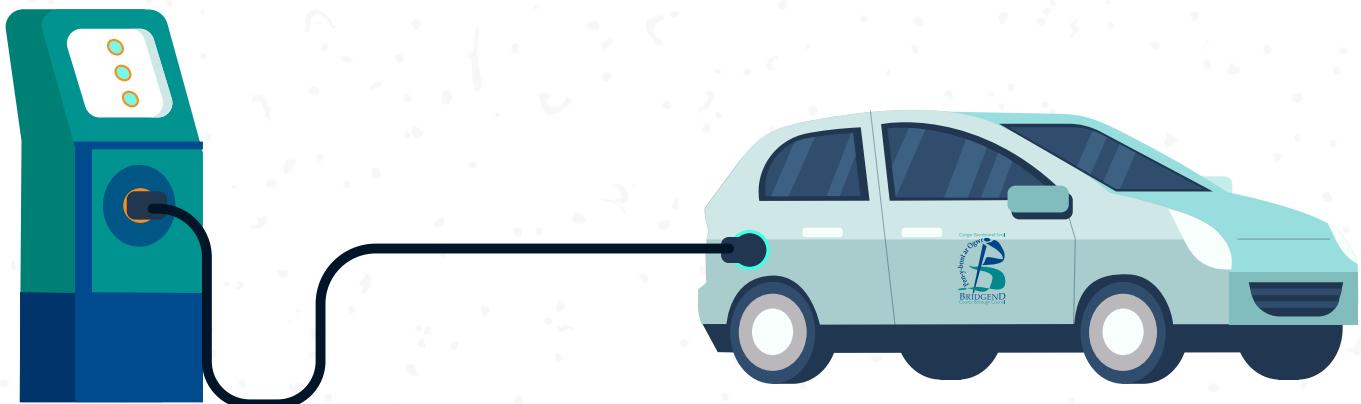
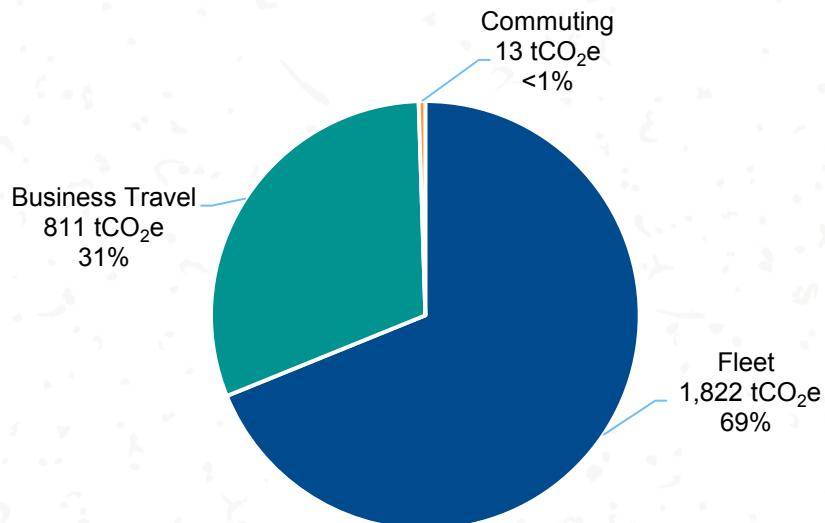
NB1	New buildings must be built to a net zero standard, with a defined approach to be set by 2022 - engage and collaborate across the UK on the emerging Net Zero building standards that go beyond BREEAM excellent and adopt a Net Zero building accreditation approach.
NB2	The council will incorporate Modern Methods of Construction (MMC) into the design and construction of new buildings – this will consider Passivhaus, modular design elements, wood-framed buildings and just-in-time delivery to minimise construction related carbon emissions.
NB3	Low carbon heating solutions will be a key design principle and the council will not install any fossil fuel combustion systems as a heat source in new builds from 2024
NB4	The council will install EV charging points in new developments beyond minimum standards, and car parks will be future-proofed by installing submerged cabling infrastructure in all new car parking spaces for the provision of future charge points.
NB5	The council will integrate sustainable transportation and active travel into the design of new sites and developments, in line with Welsh Governments Active Travel guidance and action plan.
NB6	The council will consider the retention of buildings where possible to avoid associated embodied carbon emissions from the creation of new buildings. A carbon analysis will be undertaken when considering the replacement or retrofit of a building to meet Net Zero standards.

Action Plan 3 –Transport

Carbon emissions from transport are one of the highest emitters across council operations. Transport includes emissions from owned fleet, business travel and commuting.

The following chart shows the split of transport emissions by commuting, business travel and fleet. To decarbonise transport, the council will need to prioritise introducing ULEVs into their fleet and across Bridgend County Borough in the short term. This will require the development of a best-practice approach for ULEVs and public vehicle EV charging stations.

Carbon Emissions - Transport 2019/20



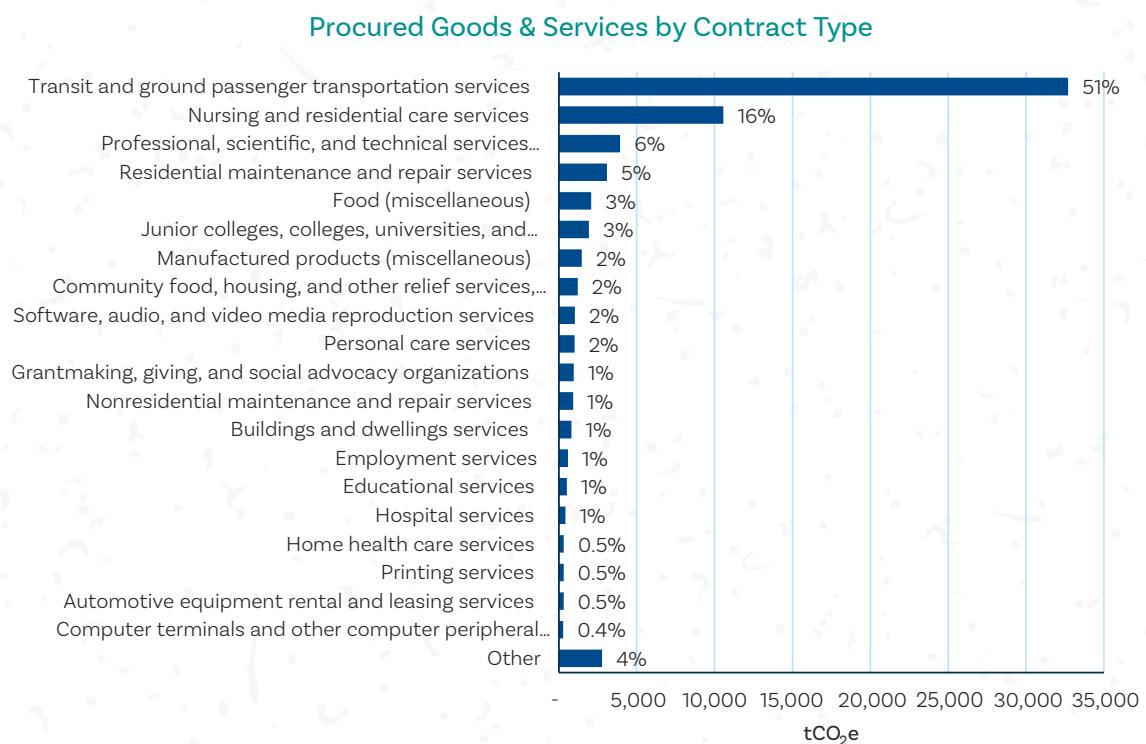
Transport initiatives

T1	The council will complete a business travel review to appraise the use of staff vehicles, pool cars and public transport across all departments; council business travel policies will be updated accordingly.
T2	The councils staff business travel policy will prioritise the use of virtual meetings, active travel and public transport.
T3	The council will undertake a detailed review of staff commuting patterns to better understand the impact on its overall carbon footprint; guidance and incentive schemes will be considered to support staff.
T4	The council will support the Welsh Government's 30% work from home target by continuing to facilitate home working, developing digital infrastructure, and rationalising office space.
T5	The council will oversee the development of a best-practice approach for ULEV technology across the Council's own fleet, staff vehicles and public EV charging.
T6	To encourage the transition to an EV fleet the council will prioritise the development of an EV charging infrastructure network plan for the existing estate.
T7	EVs will be prioritised as replacements for council owned cars and small vans in the short term, with all conforming to ULEV standards by 2025.
T8	All new medium / large freight vehicles procured across the council after April 2026 will be to the future modern standard of ULEVs.
T9	The council will actively engage with innovation projects to help shape the future landscape of the ULEV market, specifically hydrogen-powered vehicles.
T10	The council will undertake a review of fuel used in small plant and equipment to understand their carbon footprint and what assets can be replaced with electric versions.
T11	The council will pro-actively engage with other public bodies within the County to ensure strategic travel plans do not counteract each other.

Action Plan 4 – Procurement

It is estimated that emissions that occurred from procured goods & services is the largest contributor to the council's carbon footprint (74%). It should be noted that all local authorities are seeing similar levels of emissions from procurement, in terms of the % split across operations. Decarbonising supply chain emissions represent the biggest challenge across the whole public sector in achieving Net Zero by 2030.

The graph below shows the council's total emissions from procured goods and services split by contract type.



Transit and ground passenger transportation services are estimated to be the highest contributor (51%) with nursing and residential care services (16%) the second highest. The council will consider these as strategic areas in relation to decarbonisation; efforts will also be focused on working across Bridgend County Borough to champion

decarbonisation in the supply chain, and influence decarbonisation ambitions for other emission hotspots such as buildings and transport. The following table outlines the initiatives that the Council will implement to reduce emissions associated with procured goods & services. split by contract type.

Procurement initiatives

P1	The council will develop a Sustainable Procurement Code of Practice to include a framework for assessing the sustainability credentials of suppliers at varying contract values and types; this will consider the evolving Welsh Procurement Policy Notes (WPPN).
P2	The council will aim to engage with and utilise the local and low carbon supply chains whilst maintaining high standards for goods and services. This will be a corporate initiative and not just the responsibility of the procurement team.
P3	The council will build upon WPPN 06/21 and require carbon management plans/ decarbonisation improvement to be demonstrated in the highest carbon impact and strategic contracts by 2025, this will include contracts as they come to be procured associated with 'Transit & Ground Passenger Transport Services' and 'Nursing & Residential Care Services'.
P4	The council will apply the principles of 'WPPN 12/21 Decarbonisation through Procurement', to an increasing proportion of contracts such that by 2030, all contracts above an agreed value are subject to carbon assessment and reporting.
P5	The council will work to ensure decarbonisation selection criteria and the requirement for supplier carbon reduction plans is integrated into contract procedure rules for contracts valued at £5 million or more (as per WPPN 06/21) for contracts procured from 2025. This will be a corporate initiative and will involve the development of a work plan which will be presented to Cabinet and council to amend the Contract Procedure Rules.
P6	The council, through its Economic Development function, will engage with its supply chain to communicate its ambition for Net Zero and the request for suppliers to come on the journey; the council will share its developing procurement practice, resources for suppliers, and any opportunities for supply chain decarbonisation funding.
P7	The council will provide a training programme for internal service commissioners by developing best practice and engaging experts; the council procurement and service commissioners will work in collaboration to champion decarbonisation in the supply chain. This will be resourced through the Climate Change Response Programme.
P8	Contract management will be used to oversee decarbonisation progress and carbon accounting in both short- and long-term contracts, this will be overseen by the BCBC 2030 Programme Board and reported to Corporate Management Board (CMB) as required.
P9	A task and finish group will be established to identify funding option to secure a dedicated resource will be put in place to support development of the Sustainable Procurement Code of Practice, Socially Responsible Procurement Strategy, and ongoing management of decarbonisation through procurement.
P10	The council recognises the need for a regional and national approach and will identify other organisations and forums (e.g. TOMS, WLGA) for collaboration across Wales to help develop its understanding and take note from best practice approaches.

Action Plan 5 – Land Use

The council recognises that strategic planning on its owned estate is a key priority. It is not realistic to assume that all carbon emissions associated with council operations can be reduced to zero whilst still delivering services to the local community. The council will have a level of residual emissions that needs to be ‘offset’ to reach Net Zero.

Promoting sustainable land use will have positive results for all parties involved. The generation of renewable energy, carbon sequestration and creating spaces to

encourage biodiversity will have a positive impact on public health, wellbeing and decarbonisation. The council will sustainably manage its own land whilst engaging closely with the communities in these spaces to recognise potential opportunities.

Maximising the use of council land will be significant in reducing the carbon and wider environmental impact of the council. The table below shows the initiatives the council will undertake.

Land Use Initiatives

L1	The council will support the delivery of LDP identified renewables and offsetting opportunities on its own land and neighbouring land, and also influence and support broader county-wide schemes through the council’s role in planning.
L2	The council will improve its understanding of all owned land assets to correctly appreciate the levels of carbon sequestration by March 2023 and develop plans to maximise carbon benefits in these areas.
L3	The council will ensure all owned woodland and greenfield areas are maintained in a way to promote enhanced biodiversity and avoid any unnecessary loss of carbon sequestration.
L4	The council will identify its own and neighbouring land for large-scale renewable developments, primarily solar and wind projects. Private wire connections to owned sites will be prioritised over exporting directly to the grid.
L5	Where large-scale renewable developments are not possible, the council will prioritise these areas for afforestation/reforestation and biodiversity programmes on its own land.
L6	The council will undertake an assessment to understand the extent of peatland across its estate; a continual maintenance and regeneration programme will be put in place for any identified areas.
L7	The council will identify the additional maintenance resource needed to help kick start a more extensive green infrastructure programme across the county borough.

Carbon Offsetting

Despite the substantial carbon reductions achievable from implementing projects and undertaking actions outlined in this report, the council will still be emitting carbon emissions in 2030. If we are to meet the Net Zero target, we will need to consider offsetting the remaining carbon emissions. There are numerous methods for offsetting carbon emissions, each with their pros and cons, these methods along with the different principles involved in offsetting are discussed below. It should be noted that offsetting is seen as a last step in the journey and reducing emissions from operations is the first priority.

Avoided Emissions vs Emissions Removal

Carbon offsetting can be categorised into three broad groups: Avoided natural depletion, avoided emissions and greenhouse gas removal. Examples of each of these are given in the table below:

Avoided Natural Depletion	Avoided Emissions	Greenhouse Gas Removals (GGRs)
<ul style="list-style-type: none">• Avoiding deforestation/protecting forests• Protecting wetlands• Protecting peatlands	<ul style="list-style-type: none">• Renewable energy projects• Energy efficiency projects (LED lighting, boiler upgrade, etc.)	<p>Natural</p> <ul style="list-style-type: none">• Afforestation• Ocean fertilisation• Mineral Carbonisation <p>Engineered</p> <ul style="list-style-type: none">• Direct air capture technologies

Tree planting

The council has already undertaken and is involved in programmes for tree planting across the county borough. These include the I-Tree eco-study and the Queen's Green Canopy, but there is no doubt that more will need to be planted to successfully reach Net Zero by 2030.

Trees and organic matter are excellent vessels for removing CO₂ directly from the atmosphere and have the ability to fix carbon through plant growth and directly into the soil. Tree planting as a carbon offsetting programme needs to be implemented carefully, ensuring a variety of tree species are planted to encourage an increase in biodiversity and avoid monocultures. Tree planting can be an activity carried out locally, involving the local community in both the planting of the trees and creating new green spaces for them to enjoy; alternatively, the Council can support projects elsewhere in the UK or internationally.

Tree planting as a form of greenhouse gas removals is a developing field. Whilst the science is clear that trees remove CO₂ from the atmosphere, how this is accounted for within carbon accounting has yet to be agreed on. A new accounting standard that explains how to deal with greenhouse gas removals is in development, being led by the World Resource Institute and the Carbon Trust. The new standard was due for public comment in 2021 and is primarily based on the IPCC 2006 Volume 4, Chapter 2 and 4.

Welsh Government has produced some guidance on carbon sequestration levels as part of the Welsh Public Sector Net Zero Carbon Reporting Guide¹¹, however, this is a high-level land use approach rather than a detailed inventory approach per tree. The guidance also states that organisations can follow a more detailed

methodology if available. The council will follow WG guidelines until a more detailed methodology can be adopted.

When undertaking local tree planting projects, the council will keep records of tree type, number of said type, and age of the tree (sapling/mature tree). This will ensure any future accounting methodologies will be well informed.

Renewables

The ability to claim any carbon offsetting through investment in renewable energy is nuanced. This form of offsetting may only count as an offset in certain situations and can only really be used to offset scope 2 emissions.

Location versus Market Approach

At present, two methodologies can be used to account for scope 2 emissions, a location-based or market-based approach. A location-based approach is the most frequently used and uses an emission factor based on all generating supplies of electricity to the grid (national grid). This is the approach that has been used within this report. The introduction of any renewable generators exporting to the grid is captured in a lower UK wide grid emission factor, that everyone benefits from within their carbon accounting.

Alternatively, a market-based approach looks at where the consumer of electricity purchases their electricity from. If a consumer makes the conscious decision to purchase electricity from a 'green' supplier then this is accounted for in their carbon footprint. When a market-based approach is used and the footprint reported, the location-based footprint must always be reported alongside this. Under a market-based approach if a consumer of electricity wishes to offset their entire scope 2 emissions, then they

could simply ensure that they purchase electricity from a ‘green’ supplier that offers a 100% renewable tariff. Under a location-based approach, this form of ‘offsetting’ wouldn’t be possible.

WG confirmed within Welsh Public Sector Net Zero Carbon Reporting Guide¹¹ that the public sector will conform to a location-based approach. This confirms that the council cannot offset scope 2 emission through green procurement of electricity or renewable generation being exported to the grid.

Building Integrated Renewables

Any on-site renewables that provide electricity directly to a council-owned asset will result in a reduction in electricity consumption (thus reducing the carbon footprint) – on-site generation is a key action within the existing buildings action plan.

Building renewable generators where the electricity is exported to the grid or private wired elsewhere, wouldn’t typically be considered an offset as this will result in double counting of emissions reductions where these are already captured through renewable energy certificates/guarantees of origin that result in the reducing of the national rolling grid emission factor.

Investing in Stand Alone Renewables

Investing in renewables is an excellent means to engage with the local community and enable others to reduce their carbon footprint, an essential activity when considering borough-wide emissions in the future. However, as the carbon reductions will be accounted for elsewhere the council itself will not be able to realise any carbon reductions as an offset. Even if the council cannot claim offsets, it is important to show leadership

and help develop a sustainable economy for the whole borough

Offsetting Schemes (credits)

There are a variety of offsetting schemes available that have been ‘gold certified’ that can offer organisations the chance to offset the emissions they produce. Such schemes will involve carbon reduction projects such as tree planting, biodiversity restoration, international renewable installation.

Engaging with a reputable offsetting provider is recommended to ensure the scheme matches expectations and social values. Offsetting schemes such as these should be the last option for the council with a focus put on direct removal schemes on council owned land. There is no reason to suggest that the council should only select one option, and the best mix of value, leadership, locality, and ambition will come from investing in a range of carbon offsetting measures.

Action Plan 6 – Waste

The council's waste disposal can be split into **landfill, combustion, closed-loop recycling, open-loop recycling, anaerobic digestion, and composting**.

Landfill includes waste that cannot be recycled, reused or recovered. This is the least sustainable form of waste disposal. Landfills are a major source of pollution. The waste materials within them i.e. plastics, take years to break down.

Combustion refers to incinerating waste for energy. Waste incineration has negative environmental impacts but is considerably better than sending waste to landfill. The incineration process generates usable electricity and heat as a by-product, offsetting some of the carbon impacts from the incineration process itself.

Closed-loop disposal includes waste specific to one supply chain. Under a closed-loop system, businesses will recycle materials to create products for the same activity as their original purpose.

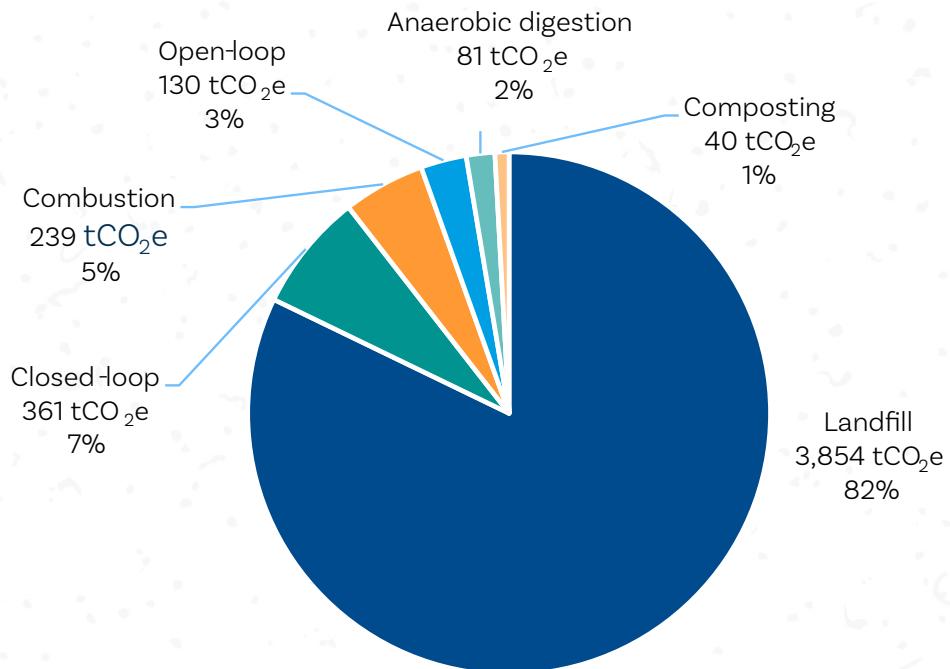
Open-loop includes any recycled materials that are converted into new raw materials and waste products. Normally, materials that have been processed through open-loop recycling will go on to be used for a different activity from their original purpose.

Anaerobic digestion involves using micro-organisms to break down waste material. This process reduces the amount of landfill waste and produces a biogas by-product that can be used as an energy source for electricity production and heating.

Composting involves reusing plant and food waste and organic materials to fertilise and improve the soil.



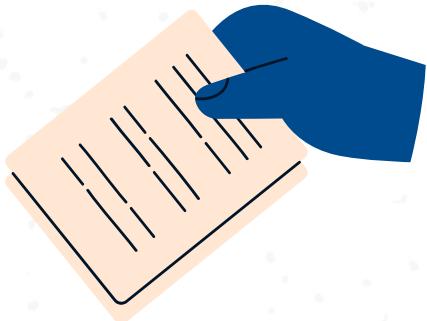
Carbon Emissions Waste - 2019/20



Waste Initiatives

W1	The council will build on its performance in regard to reducing waste sent to landfills and increasing reuse and recycling in line with the Welsh Government Towards Zero Waste strategy.
W2	All waste streams will be reviewed on an annual basis to ensure the most sustainable method of disposal is being undertaken, the waste hierarchy will be used as a template for action.
W3	Undertake a more joined up approach across the council on waste data collection to ensure all waste streams are being identified.
W4	The council will work with the schools to implement further food waste initiatives to reduce the amount of waste sent to landfills.
W5	The council will develop a plan to agree on future step changes to continue working to achieve the outcomes set out by Welsh Governments: Towards zero waste: our waste strategy.
W6	The council will review best practice advice and develop a plan to support highways and capital projects on hard to decarbonise waste streams such as cement, concrete and Asphalt.
W7	The council will increase the availability of battery-powered equipment and tools in its supply chain to reduce disposal and replacement cycles.
W8	The council will prioritise the purchase of reused and remanufactured products that have recycled content, this will be embedded into best practices for service commissioners.
W9	The council will continue to engage with key stakeholders and work with our communities to encourage the reduction of waste, reuse and recycling.

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