

CEREDIGION COUNTY COUNCIL

Report to: Council

Date of meeting: 17/06/2021

Title: Achieving Net Zero by 2030 – Action Plan

Purpose of the report: To provide and update on the development of the Council's Net Zero Action Plan

For: Decision

**Cabinet Portfolio and Councillor Rhodri Evans & Councillor Alun Williams
Cabinet Member:**

Background:

The meeting of Ceredigion County Council on 20 June 2019 (Full Council 20 June 2019) agreed to:

- Commit to making Ceredigion a net zero carbon Local Authority by 2030
- Develop a clear plan for a route towards being net zero carbon within 12 months
- Call on Welsh and UK Governments to provide the necessary support and resources to enable effective carbon reductions

Further to this, on the 5th March 2020, Ceredigion County Council declared a global climate emergency, committing to meeting the most significant challenge facing our county and our planet.

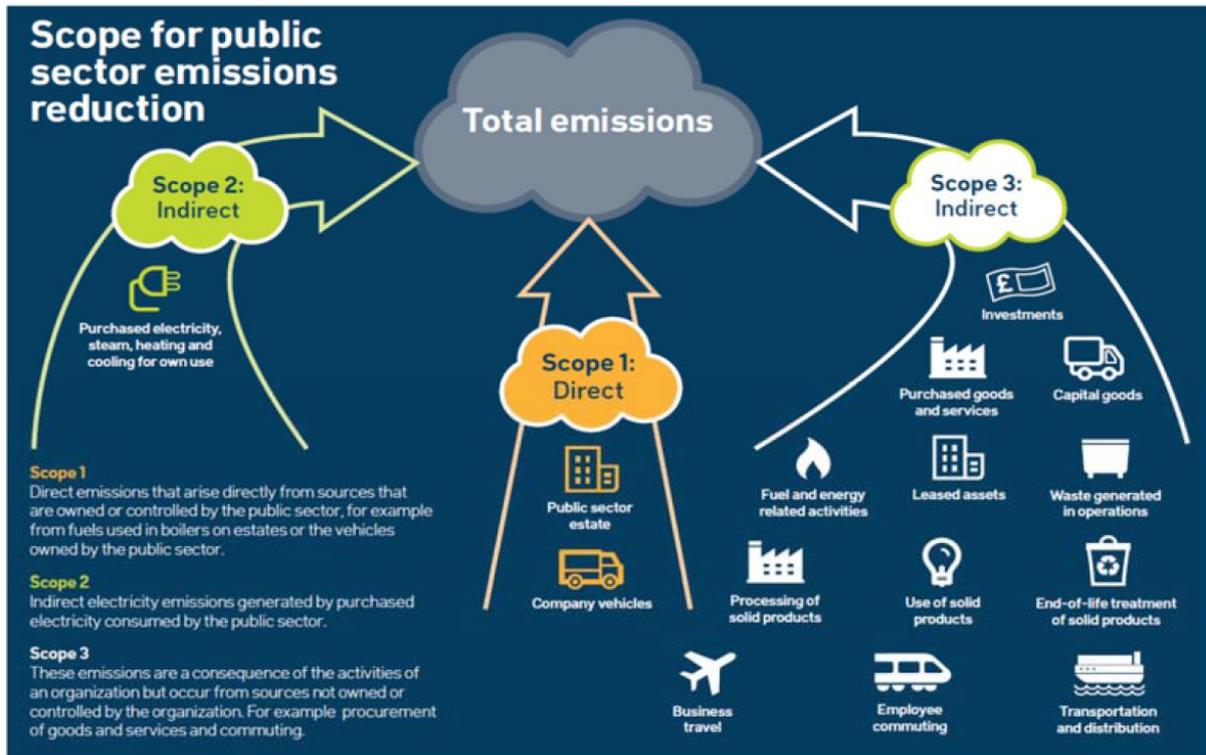
This document sets out how we intend to respond to the climate emergency. It explains why we need this Net Zero Carbon Action Plan and why the 2030 target is so important to tackling climate change. The Action Plan assesses Ceredigion's current operational carbon emissions and outlines the challenges associated with the ambitious 2030 target.

This report was considered by Overview and Scrutiny Thriving Communities on 26 May 2021.

Focus of the net-zero action plan:

The focus is currently upon operational energy usage and emissions (Scope 1 and 2 emissions), as these are routinely recorded and calculated annually as part of the annual review of the Carbon Management Plan. There is a need to calculate and understand the carbon footprint of the Local Authority as a whole (to include Scope 3 emissions), which will be undertaken once the Welsh Government publish their reporting methodology, release of which has been delayed by COVID. The additional emission sources will likely include:

- (1) Mobility and Transport;
- (2) Procurement;
- (3) Land Use; and
- (4) Buildings



This Plan has been formed based on the Member-led motion put forward in June 2019, the contents should be considered on the basis of whether it articulates the desired vision going forward.

Anticipated Next Steps

Short-term (next 3 - 12 months)
<ul style="list-style-type: none"> • Net Zero Action Plan to Cabinet/Council • Integration of Net-Zero Action plan into Corporate Priorities, to ensure progress is monitored and reported. • Further work to progress schemes already identified, which will contribute to delivery of emission reductions • Continue discussions with Welsh Government and District Network operators over grid capacity issues within the county.
Medium-term (next 18 months - 2 years)
<ul style="list-style-type: none"> • Upon release of Welsh Government reporting methodology, full baseline exercise needs to be undertaken, to expand emission monitoring to also include emissions from: <ul style="list-style-type: none"> ➢ Mobility and Transport; ➢ Procurement; ➢ Land Use; and ➢ Buildings. <p>As a result, there will be many other actions that emerge over time, which will need to be identified and progressed further.</p> • Once we have a complete baseline carbon footprint, we will be able to look more specifically at projects and schemes that will contribute to emission reduction and carbon offsetting – this will also need significant financial investment. • Continue work that is effective in delivering emission reductions, focus on projects that are proven to deliver positive outcomes.

<ul style="list-style-type: none"> Analyse and assess where information, resources and policy changes are needed to support the move towards net zero carbon. Initial annual review and update of Net Zero Action Plan – to Scrutiny, Cabinet summer 2022.
Long-term (next 2+ years)
<ul style="list-style-type: none"> Net-Zero Action Plan to be reviewed and updated periodically, to ensure progress. Further delivery of projects that provide significant carbon reductions, these will likely be more complex, larger in scale and value, this may include carbon sequestration, tree planting. Zero carbon working practices should now be embedded throughout Local Authority working practices All new schemes, projects and developments in Ceredigion should be being delivered in a manner that contributes to our net-zero ambitions

**Has an Integrated Impact Assessment been completed? If, not, please state why
Summary: In progress**

Wellbeing of Future Generations:	<p>Long term: This Net Zero Action Plan will support the Council's 2030 net zero carbon ambition</p> <p>Collaboration: The Council is already working in collaboration with a number of public bodies in relation to carbon reduction and delivery of emission reduction.</p> <p>Involvement: Climate Change and Carbon Management Group is well established and attended by both Members and officers, this provides a good initial forum for stakeholder engagement, but scope for wider involvement following publication of this Plan</p> <p>Prevention: This Plan will support implementation of actions and measures to reduce carbon emissions that contribute to climate change</p> <p>Integration: Will help integrate and embed emission reduction across the Authority</p>
Recommendation(s):	Endorse the Net Zero Action Plan and Actions set out within it
Reasons for decision:	To support the Council's commitment to reducing the effects of climate change.

Overview and Scrutiny:	Progress to be reported periodically to the Thriving Communities Overview and Scrutiny Committee
Policy Framework:	
Corporate Priorities:	Promoting Environmental and Community Resilience •The County will make a positive contribution towards tackling the causes and mitigating the effects of climate change and environment harm
Finance and Procurement implications:	Cost of delivering this plan has not been calculated yet, although it is likely to be significant. Energy efficiency measures implemented will also provide some financial savings, which will be reflected in energy invoicing.
Legal Implications:	
Staffing implications:	Further development and review of this plan is required and additional staff resource will be needed.
Property / asset implications:	We will need to ensure that we provide services and operate in an efficient and sustainable way, building on the good work already being undertaken across the Authority.
Risk(s):	Climate change is included on the Council's corporate risk register
Statutory Powers:	The Welsh Government (WG) target for a carbon-neutral public sector by 2030. Environment (Wales) Act 2016, Wellbeing of Future Generations (Wales) Act 2015, The Mid Wales Energy Strategy
Background Papers:	Net Zero Action Plan Scrutiny Committee Feedback
Appendices:	
Corporate Lead Officer:	Russell Hughes-Pickering
Reporting Officer:	Bethan Lloyd Davies
Date:	07/06/2021



Cyngor Sir
CEREDIGION
County Council

Achieving Net-Zero Carbon by 2030



Action Plan
2021/22 to 2029/30

We are facing a global climate emergency

The meeting of Ceredigion County Council on 20 June 2019 (Full Council 20 June 2019) agreed to:

- Commit to making Ceredigion a net zero carbon Local Authority by 2030
- Develop a clear plan for a route towards being net zero carbon within 12 months
- Call on Welsh and UK Governments to provide the necessary support and resources to enable effective carbon reductions

On the 5th March 2020, Ceredigion County Council declared a global climate emergency, committing to meeting the most significant challenge facing our county and our planet.

Ceredigion Council has been reducing its carbon emissions since 2007 when the Council launched its first five-year Carbon Management Plan. Since then, following a series of three 5-year plans addressing all areas of the Council's work, the Council has exceeded its carbon reduction targets and reduced emissions by 51.66%, saving over £6 million in the process.

As the world climate crisis becomes ever more apparent, many local residents have been asking for a more ambitious target. On June 20th 2019 the Council therefore agreed to put a plan in place for achieving net zero carbon emissions from council activities by 2030. The formulation of that plan, like everything else, has been held up by Covid but is now complete and presented here.

Of course having a plan is not the same thing as putting that plan into action, but it is the essential first step. The target of net zero carbon emissions is ambitious. It requires different layers of government to work together. Our whole society is in unknown territory on climate change and no local authority has achieved net carbon zero yet. All of us - in our homes and our organisations - have to do our bit as governments push at the boundaries of human knowledge to find solutions to this most serious of problems.

Local authorities have a key role to play in terms of both the resources they can bring to bear and their duty to act in the long-term interests of local residents; this Net Carbon Zero plan for Ceredigion Council is an important local step in this vital process.

Councillor Alun Williams

Ceredigion Council's Member Champion for Sustainability



Ceredigion's Net Zero Carbon Action Plan

This document sets out how we intend to respond to the county-wide climate emergency. It explains why we need this Net Zero Carbon Action Plan and why the 2030 target is so important to tackling climate change. The Action Plan assesses Ceredigion's current operational carbon emissions and outlines the challenges associated with this ambitious 2030 target. It sets this against the timescale of current policy, recognising that not all the solutions to tackling climate change currently exist. For the purpose of the declaration of a climate emergency, and this Action Plan, we are defining carbon neutrality as the point when we achieve a net zero carbon budget by getting as close to zero greenhouse gas emissions as possible by 2030, and then offsetting any residual emissions via other credible initiatives.

The Action Plan also lays down the response strategy that the county will implement to respond to the climate emergency. It sets out the objectives we aim to reach, the types of actions that we will prioritise in the first phase of the response and the specific interventions that the county will deliver in future years. This Action Plan has been produced under the leadership of Ceredigion County Council, but its successful delivery will require collective action from across the county, from both organisations and individuals. A county-wide collaborative effort is required if we are going to meet this enormous challenge head on and leave a positive legacy for our county and communities.

Collectively we can deliver more of the things we already do well, faster, to reduce emissions and identify new and innovate ways to do more. We also need to use our collective power to ensure that Welsh and National government gives us more tools and resources to help stabilise our climate on our accelerated timeframe.

Ceredigion cannot solve global climate change alone, but we are committed and determined that we will fully play our part. We will need to think big and act quickly.

This Action Plan provides a framework for taking action, securing further funding and lobbying Welsh and national government to provide the necessary support and resources.

The need for declaring a climate emergency

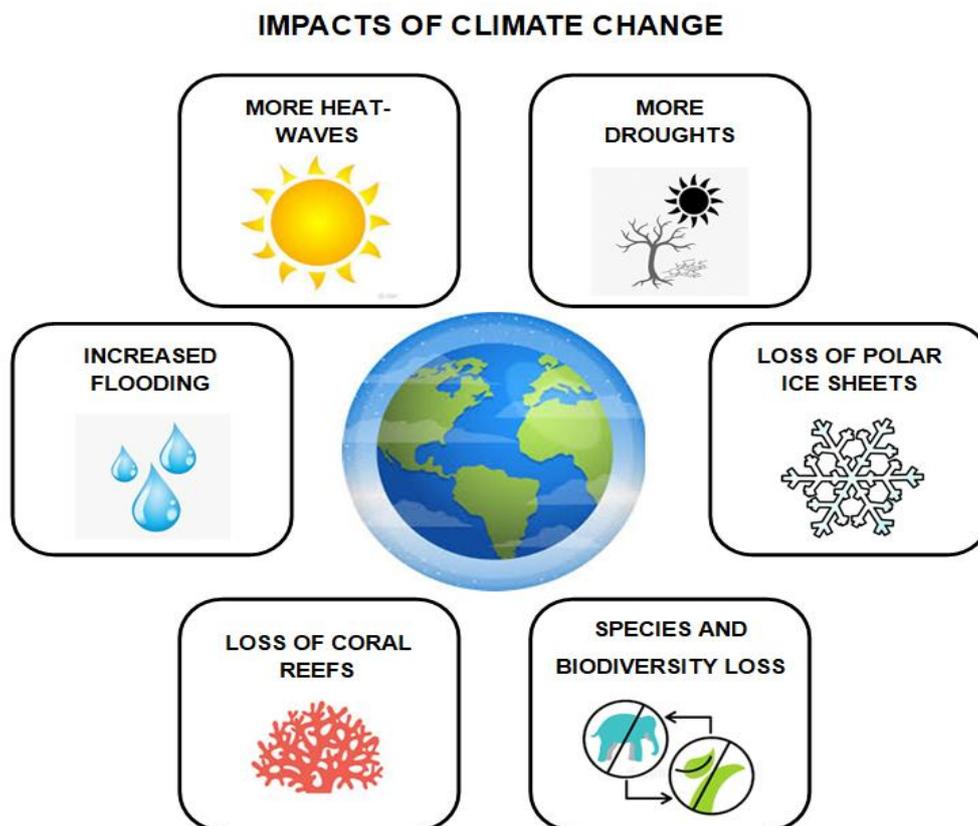
The earth is close to 1°C warmer than it was 100 years ago and without action this could increase to 3°C, which will be catastrophic for our society and the natural world. As a result of climate change people in Ceredigion can expect to experience rising sea levels and heavier rain storms.

There is overwhelming evidence that the changes we are experiencing in our climate, predominantly in the form of global warming, are caused by human activity. Governments have agreed to take action to limit the global temperature rise to well below 2°C above preindustrial levels and to pursue efforts to limit it even further to 1.5°C. The UK government has committed to reducing greenhouse gas emissions to zero by 2050.

It is our belief in Ceredigion and now also that of over 50% of other Local Authorities and organisations across the country, that current government commitments do not go far enough, nor quickly enough, to successfully address the existential issues for our society in relation to climate change. The emergency status is now needed to prompt rapid action at a local, national and international level.

We are also clear that we cannot do it alone. The climate emergency needs to be responded to at every level. In Ceredigion we need to respond at a county-wide level and as such organisations and individuals from across the county need to come together to find solutions and ensure substantial change happens quickly. This is the ethos we hope to embed within the actions set out in this Action Plan.

Ceredigion County Council's Carbon Management Plan has been used to drive change within the Local Authority and it is hoped that greater awareness will help individuals and organisations across the county be more aware and develop their own plans for how they will reduce their own emissions.



Why carbon neutral by 2030?

In October 2018 the Intergovernmental Panel on Climate Change (IPCC) published a special report on the impacts of global warming of 1.5°C. The IPCC found that a 1.5°C world would have significantly lower climate-related risks for natural and human systems than a 2°C world, and that global carbon emissions would need to reach net zero around 2050 in order to have no, or limited, overshoot beyond the effects of 1.5°C of climate change. Behind this report is a huge body of scientific research and analysis with near-unanimous agreement among the world's scientific community.

Consistent IPCC reports and United Nations Framework Convention on Climate Change summits have come and gone; they attract publicity and media attention at the time, but action by world leaders to work towards the plans agreed at these meetings has been slow.

The IPCC Special Report of October 2018 was the strongest yet – effectively saying that the world had just 12 years to get a grip on this issue or our ecosystem would suffer irreparable damage.

This has led to a realisation that time is fast running out, which resulted in a Climate Emergency being declared during 2019 by many organisations including Ceredigion County Council and over 280 other UK local authorities. The Welsh Government and UK Government have also declared a Climate Emergency.

Local Authorities have an opportunity to lead the de-carbonisation agenda, providing local vision and delivery. As such, we need to have a target that reflects what the science tells us.

This Action Plan as intended to be a dynamic, living document that will be updated and reviewed annually. It will be used to instigate action, with partners and stakeholders coming together to do more, helping to inspire and give confidence that we can all respond to the imposing threat of climate change. Ultimately, we want this Action Plan to help facilitate a county-wide conversation, inspire rapid local action and create bottom up pressure on the Welsh and UK Government so that we can reach our 2030 ambition.

From 1 to 12 November 2021, the UK will host the 26th United Nations Climate Change Conference (COP26) in Glasgow.

Policy Landscape

The policy landscape around decarbonisation is constantly evolving, but relevant recent policy is captured here:

The Welsh Government (WG) target for a carbon-neutral public sector by 2030.

WG Environment Act Part II specifies an 80% reduction in all-Wales net emissions by 2050 against a 1990 baseline [Ceredigion started accurately recording emissions data in 2007/08 when our first Carbon Management Plan was put in place, so 2007/08 is CCC's only viable baseline year].

The Welsh Government commissioned and funded the Welsh Government Energy Service (WGES) to undertake the development of Regional Energy Strategies for each Welsh region including mid Wales covering the geographies of Powys & Ceredigion.

The strategy sets the vision for mid Wales “To achieve a net zero-carbon energy system that delivers social and economic benefits, eliminates fuel poverty, better connects mid Wales to the rest of the UK, and contributes to wider UK decarbonisation.”

The Mid Wales Energy Strategy sets out 6 Key Priorities to tackle energy issues in the region:

Key Priority 1: Drive forward the decarbonisation of the region's housing and building stock

Key Priority 2: Work proactively to ensure that electricity and gas grids in the region are suitable for a 100% decarbonised future

Key Priority 3: Boost the use of renewable energy through new generation and storage

Key Priority 4: Accelerate the shift to zero carbon transport and improve connectivity

Key Priority 5: Develop and harness the potential of agriculture to contribute to zero carbon goals

Key Priority 6: Harness innovation to support decarbonisation and clean growth



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The **Mid Wales Energy Strategy** will seek to deliver the following benefits to the economic region of mid Wales:

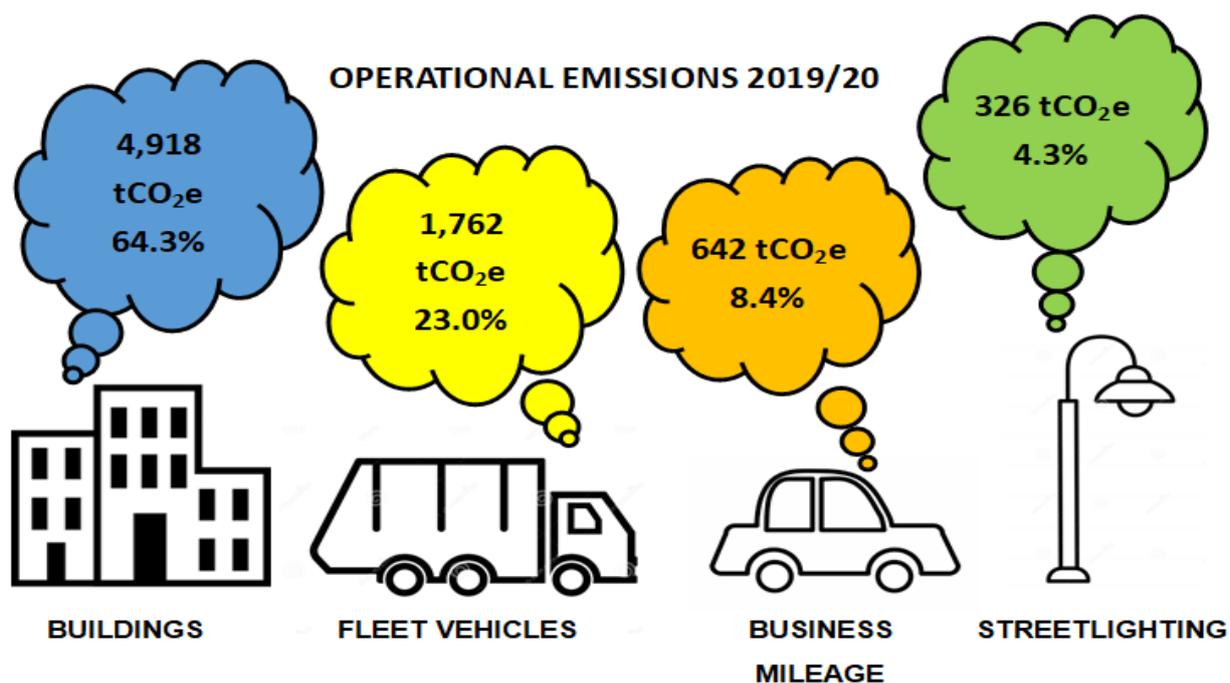
- Raise the level of ambition regionally on energy
- Secure cross-sector stakeholder support for a shared place-based energy system vision for the region
- Provide the evidence needed to demonstrate the economic benefit of investment in local energy systems
- Develop a regional pipeline of deliverable projects and programmes that will achieve the vision

Ceredigion County Council's current annual operational emissions

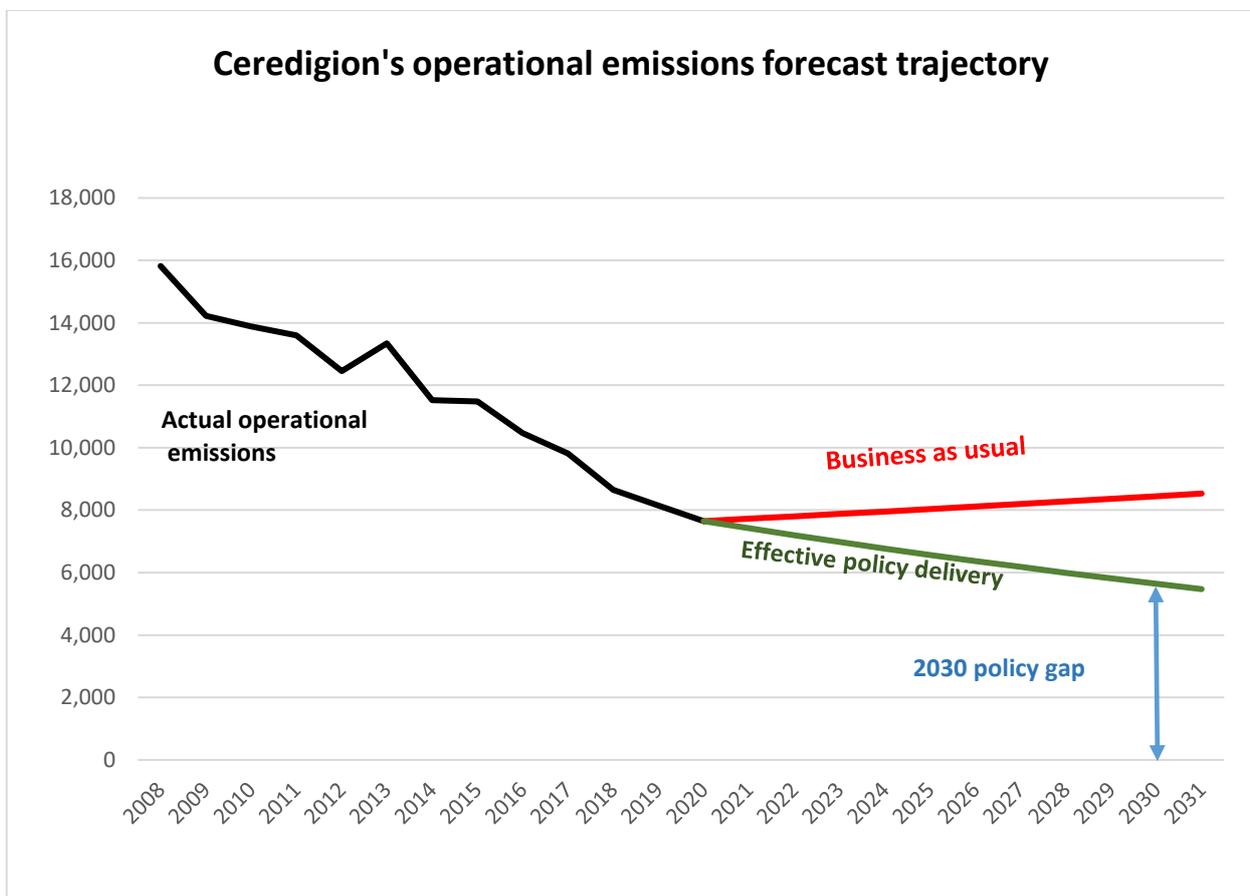
During 2019/20 Ceredigion County Council's operational emissions were 7,648t/CO₂. This was across four main areas: buildings, streetlighting, fleet vehicles and business mileage.

Key Measures of Success	2007/08	2017/18	2018/19	2019/20	2018/19 vs. 2019/20	
					Status	% change
Non Domestic Buildings						
Consumption (kWh)	33,181,924	25,243,982	23,824,245	23,165,854	Improved	-2.76%
Carbon Emissions (tCO ₂ e)	11,034	5,557	5,177	4,918	Improved	-5.01%
Streetlighting						
Consumption (kWh)	2,789,852	1,473,489	1,430,263	1,176,392	Improved	-17.75%
Carbon Emissions (tCO ₂ e)	1,503	518	435	326	Improved	-25.06%
Fleet Vehicles						
Consumption (Litres)	735,921	687,747	676,698	679,623	Declined	0.43%
Carbon Emissions (tCO ₂ e)	1,995	1,867	1,802	1,762	Improved	-2.22%
Business Mileage						
Mileage (miles)	3,907,910	2,592,354	2,573,678	2,301,840	Improved	-10.56%
Carbon Emissions (tCO ₂ e)	1,288	784	729	642	Improved	-11.93%
TOTAL EMISSIONS	15,820	8,726	8,143	7,648	Improved	-51.66%

The table above illustrates the breakdown on the Council's operational carbon emissions. In 2019/20 buildings alone accounted for 4,918t/CO₂, equivalent to 64.3% of operational emissions, with fleet vehicles contributing a further 1,762t/CO₂, or 23%. These two emission sources, will require the greatest change and input to ensure emission reductions.



For Ceredigion to achieve its 2030 target we need to act at least **four times faster** than envisaged by current policy.



The diagram above shows the trajectory of Ceredigion’s operational emissions forecast to 2030 for two different scenarios:

Business as usual charts emissions if no national or corporate policies were implemented between now and 2030, with emissions beginning to rise steadily as population grows.

All policies are effective charts emissions if all current government policies and aspirations are successfully implemented.

The 2030 policy gap the remaining annual emissions of greenhouse gases that still need removing if all current policies and government aspirations are successful.

Net Zero-carbon Local Authority by 2030 – outline approach

When a council passes any motion, it reflects the importance that the organisation places on the issue and it signals its intent to address it. Therefore, if a council passes a climate-emergency motion the same can be said for this agenda. The use of the term ‘emergency’ is significant and, by definition, carries a greater priority than normal. If that is the case, then the actions that a council takes should carry greater priority also.

Ceredigion County Council is a member of the Association of Public Service Excellence (APSE) and has in 2021 joined APSE Energy – a collaboration of over 100 UK local authorities who are working towards the municipalisation of energy. APSE Energy was established to help support local authorities to make the most of their assets in the energy arena and to help them take a leadership role within it. The APSE Energy publication *Local Authority Climate*

Emergency Declarations: Strategic and practical considerations for climate emergency declarations, targets and action plans (June 2019) has informed the Council’s approach. This recognises that while an emergency declaration deserves an appropriate response, a local authority cannot abandon everything else in order to tackle climate change as there are other legal duties and responsibilities to fulfil as well as locally identified priorities that it has committed to addressing

A pragmatic approach, therefore, is being adopted for the route towards Ceredigion becoming a net zero-carbon local authority by 2030. This initially focuses on the carbon emissions that are presently measured by the Council; however, it is recognised that this approach needs to be sufficiently flexible to accommodate changing circumstances – including the reporting requirements yet to be introduced by the Welsh Government as part of its ambition for a carbon neutral public sector by 2030. This initial focus is not intended to limit or preclude other potential wider actions to address the climate emergency, and some of these are identified in Appendix 3.

Ceredigion has, over a number of years, adopted proactive programmes to reduce its carbon emissions, and has regularly reported performance in its annual reports. It is proposed that these reported emissions from Council activities initially constitute the scope of the Council’s commitment to become net zero carbon by 2030. These carbon emissions come from:

- non-domestic buildings;
- street lighting;
- fleet mileage; and
- business mileage.

While the Council is committed to significantly further reduce its carbon footprint it also recognises that however energy/carbon efficient its services become they will inevitably still have a residual carbon footprint. This situation is acknowledged by the ‘Net’ in the Net Zero Carbon equation, as it enables this residual carbon footprint to be compensated for by the generation of renewable energy and/or carbon offsetting (such as by the planting of trees). This can be summarised thus:

Carbon Footprint	–	Renewable-energy Generation Carbon Offsetting	=	Net Zero Carbon
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Resources required and costs

We want our County to be a leader in decarbonisation and fully appreciate the scale of the challenge ahead. It is also recognised that we need to start delivering county-wide action immediately, even though we do not yet have all the answers. The aim of this Action Plan is to provide a framework for engagement, for taking action, securing further funding and lobbying Welsh and national government.

At this stage it is not possible to detail the full costs of Ceredigion becoming a carbon neutral Local Authority by 2030. Some high level work has been completed on carbon management schemes being considered, in collaboration with the Welsh Government Energy Service. Grid connection costs within the County are reducing the viability of medium to large scale energy generation, this needs addressing. West Wales is ideally suited for large-scale renewable and community energy generation schemes, but at present the lack of grid capacity is hindering development of these projects.

It must be noted that the cost of not taking action to tackle climate change, far outweighs the cost of taking action now. This is because the impact upon people, buildings and infrastructure in Ceredigion as a result of unchecked climate change will be far worse – in both economic terms but also social and environmental terms. Doing nothing, or continuing as we have is therefore no longer an option.

Recognising that additional resource is required to tackle the climate emergency, the County Council is committing revenue and capital budget to support the delivery of the outcomes and actions identified in both this Net Zero Action Plan and its own Carbon Management Plan - we will also need to maximise funding from other sources such as grants.

Net-Zero response strategy

Ceredigion's Net-Zero response needs to deliver the following key objectives:

- Set clear actions that will reduce operational emissions
- Ensure a greater understanding of emission sources.
- Embed emission reduction within local authority services
- Start a county-wide conversation
- Inspire rapid action
- Create bottom up pressure on Welsh Government to provide infrastructure, support and resources to achieve our net-zero ambition

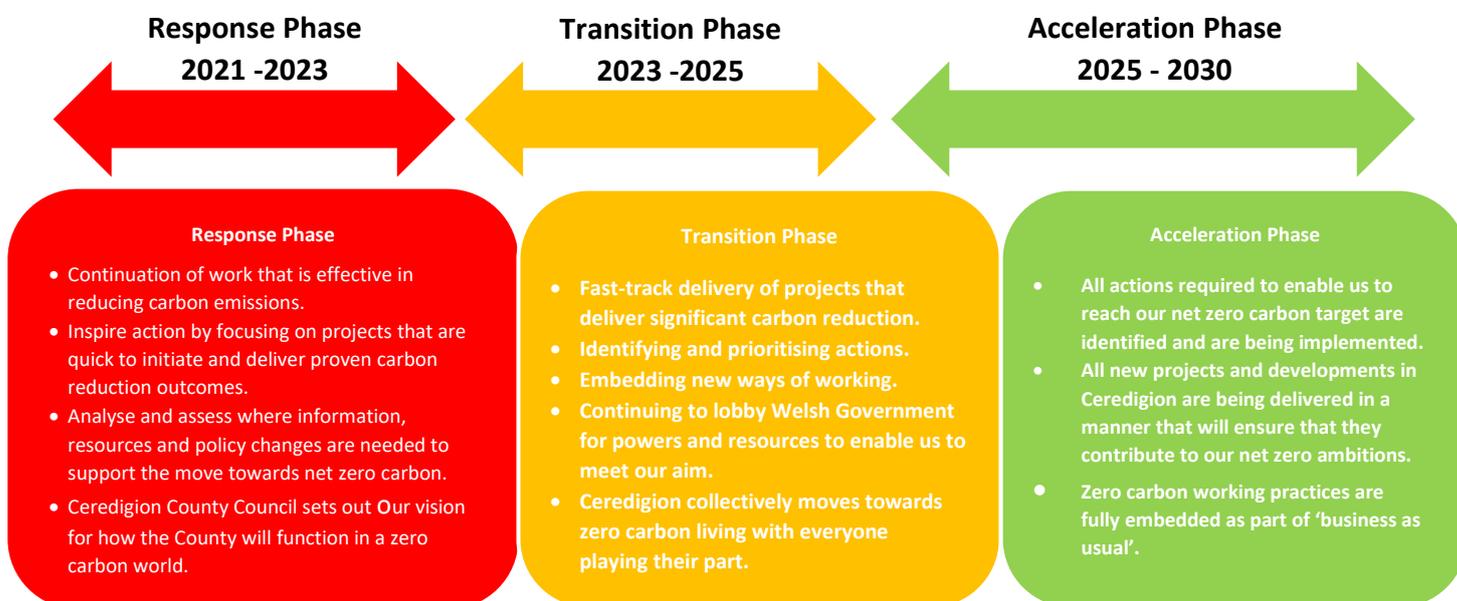
To do this we need to bring together the activities already happening within the different Local Authority Service areas, as well as within our local communities and across the County, which are helping to reduce carbon emissions. We also need to be able to respond quickly to opportunities and technical advancements. The Action Plan is therefore intended to be a dynamic document that will be reviewed annually, recording the actions being undertaken and those planned, so that others can see opportunities for collaboration and make similar changes themselves. We have therefore committed to reporting on the progress of this Action Plan every year through to 2030, so that everyone can see what the progress made and the difference we are all making by working more collaboratively.

In responding to a climate emergency we must be mindful that some of the solutions and technologies needed to become a net carbon-zero Authority by 2030 are yet to be available. We will need to alter our approach to tackling climate change as new policies are introduced, new funding becomes available and as society and behaviours begin to change. As a result our net-zero response will be structured in three inter-related phases between now and 2030, as illustrated in the diagram below:-

CEREDIGION COUNTY COUNCIL'S NET ZERO ACTION PLAN

STRATEGIC APPROACH

Journey towards net zero carbon



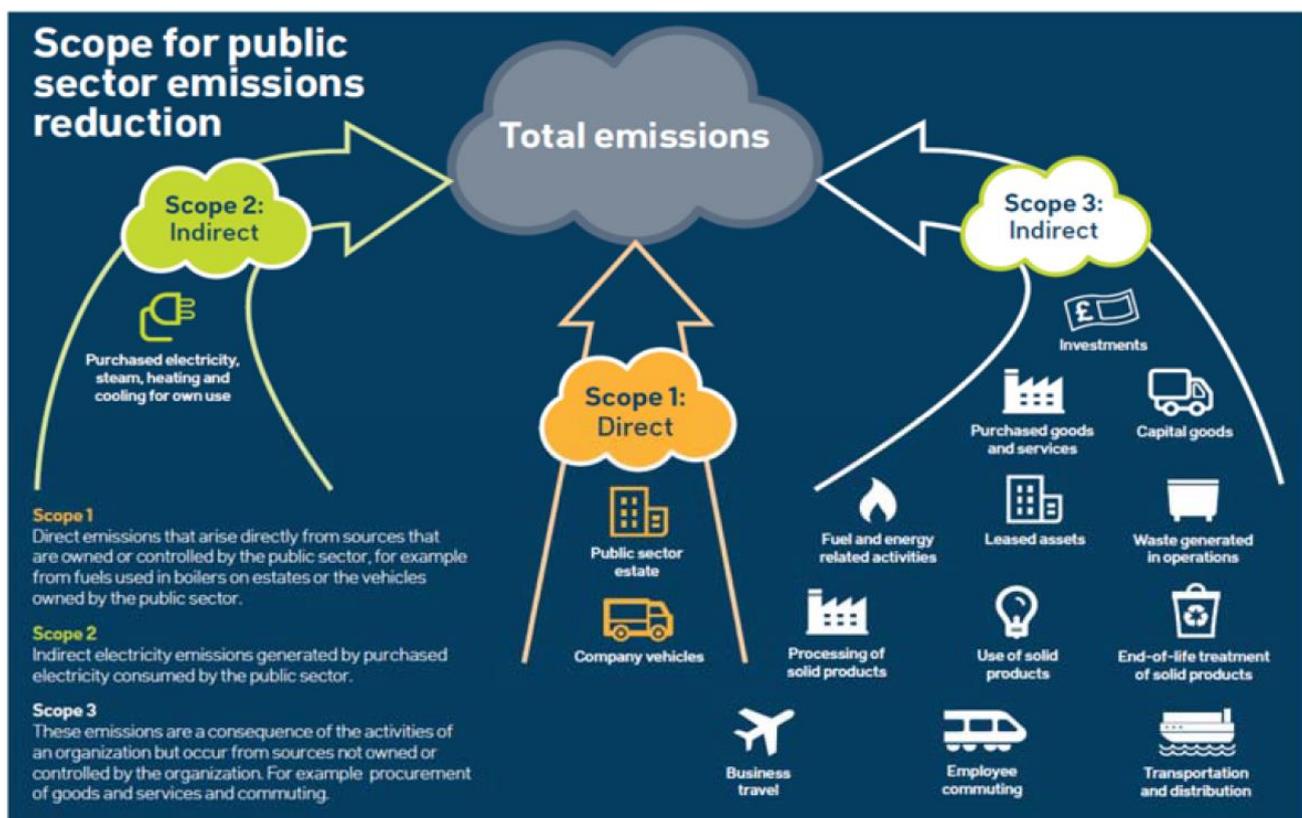
The first 'response stage', from 2021-2023, focuses on implementing actions that will rapidly and credibly reduce carbon emissions as well as driving changes needed to rapidly increase the rate at which we reduce our emissions. This ensures a credible response to the climate emergency and avoids spending time preparing longer term plans which may quickly become out-dated in an environment that is rapidly changing.

The second 'transition stage', from 2023-2025, new ways of working are being embedded across the Authority, with increasing delivery of projects that deliver carbon reduction and a better understanding of options and requirements for achieving net-zero.

In the 'acceleration phase', between 2025 and 2030, all actions required to reach our net-zero carbon target will have been identified and will be being delivered. Emission reduction and zero carbon working will be embedded across the Authority.

Focus of the net-zero action plan

The following sections provide an overview of actions that will be taken in Ceredigion to tackle the climate emergency. The focus is currently upon operational energy usage and emissions (Scope 1 and 2 emissions), as these are routinely recorded and calculated on an annual basis. There is a need to calculate and understand the carbon footprint of the Authority as a whole (to include Scope 3 emissions), which will be undertaken once the Welsh Government publish their reporting methodology, the release of which has been delayed by COVID.



The Council is already doing a lot of work in areas that contribute to emission reduction, as well as climate change mitigation. This Action Plan brings these work streams together, in one place to work towards the common goal of becoming a net-zero Local Authority by 2030. **Appendix 3** of this document details some of the work currently being undertaken by the Authority to contribute to this goal.

Operational Buildings

The Council has reduced carbon emissions from its non-domestic buildings by 55.43% since 2007/08 – from 11,034 tCO₂e to 4,918 t/CO₂e. An 11.50% reduction in emissions occurred between 2017/18 and 2019/20.

Energy consumed by the Council's non-domestic operational buildings in 2019/20 and resultant emissions:-

Utility	Consumption (kWh)	Carbon Emissions (tCO ₂ e)
Electricity	7,627,024	2,115
Natural Gas	8,336,137	1,703
Gasoil	904,178	247
Kerosene	309,308	80
LPG	3,164,457	729
Biomass	2,824,750	44
TOTAL	23,165,854	4,918

To-date, the Council has invested over £5 million in energy efficiency and carbon reduction projects, financed via 'Invest to Save' and Capital Budgets. This investment has saved £2.8m to date and is projected to save over £6 million / 30,000 tCO₂e over the lifetime of the installed technologies. This investment, coupled with the Council's on-going property rationalisation, agile working and maintenance programmes, is producing financial and carbon savings in times of significantly increasing utility prices.

ACTIONS – Operational Buildings

- Delivery of 'Re:fit' (Energy Efficiency) Scheme in operational property to achieve energy/carbon savings
- Develop further potential phases of 'Re:fit' (Energy Efficiency) project, or similar, to achieve accelerated energy/carbon savings.
- Incorporate wording into new build and construction design briefs to state that Ceredigion County Council require that new buildings are carbon neutral/net zero carbon in their energy use – and preferably carbon positive, in that they generate more energy than they can consume.
- Adopt the 'Fabric first' standard, where appropriate, in new building-construction projects.
- Continually review and amend design specifications and briefs to reflect new technologies and energy-efficient equipment.
- Extend 'smart' and sub-metering technology to ensure accurate and timely capture of energy-consumption data. Consider application for water smart metering.
- Develop appropriate carbon-reduction target for the Council's non-domestic buildings as part of annual review of Action Plan.

Streetlighting

The Council has reduced carbon emissions from its street lighting by 78.31% since 2007/08 – from 1,503 tCO₂e to 326 tCO₂e. A reduction in emissions of 17.75% occurred from 2018/19 into 2019/20.

Since 2007/08, Ceredigion has implemented two LED street lighting upgrade programmes, which have seen the conversion of 7,526 of 7,885 streetlights to LED, as well as 'part night lighting' (where lamps are automatically switched off between midnight and 5:00 am).

Total Capital spend on street lighting upgrades is approximately £2.75m. This has generated annual savings of £259,000, 1,600,000 kWh and 1,177 tCO₂.

Completion of the second phase of street lighting improvements means that 95% of Ceredigion street lighting will have been converted to LED, the remaining 5% are heritage lighting, where there isn't currently an available LED solution – this will be revisited in future.

ACTIONS - Streetlighting

- Develop appropriate carbon-reduction target for the Council's street lighting as part of annual review of Action Plan.
- Upgrade remaining high-power-demand street lights to LED by end of March 2022 using agreed Ceredigion County Council funding.
- Replace any street lights that no longer comply if the Council cannot economically repair – i.e. repair costs more than a new Energy efficient LED lamp.

Fleet Vehicles

The Council has seen a 2.22% decrease in carbon emissions from its fleet vehicles from 2018/19 into 2019/20 – from 1,802 tCO₂e to 1,762 tCO₂e, despite a slight increase in consumption (litres). Carbon-emissions factors can vary each year, hence lower emissions in 2018/19 versus 2019/20, even though consumption figure was higher.

As at January 2021, the Council operates a diverse fleet of approximately 200 vehicles and 73 items of plant. The oldest vehicle in the fleet being an infrequently used 48 year-old snow blower and the youngest vehicle being a 4 month-old 3.5t pickup;

- The majority of the fleet is less than 7 years old;

We have an established fleet-list which influences and informs the vehicle replacement programme; this takes into account the:

- size and type of vehicle
- what it is used for and
- how much use is made of it

This allows the flexibility to replace vehicles when it is optimal to do so. As part of the decision making process consideration is given to whether the vehicle is actually needed or if a smaller and / or more fuel efficient vehicle would be suitable.

We replace our fleet vehicles on an incremental basis with new more fuel efficient vehicles which have a positive influence on reducing carbon emissions, enabling us to benefit from ongoing advancements in technology.

25% of our vehicles are fitted with telematics (tracking), some vehicles are also specified with speed limiters, restricting the speed and, where appropriate, engine rev limiters – these can help with driver behaviour and reduce carbon emissions.

Pedestrian diesel sweepers, as well as petrol-powered strimmers and gardening tools have been replaced with Lithium battery-powered options - the advantages of these include lower emissions, noise reduction and less hand-and-arm vibration, which can lead to health problems for the user.

The Council has engaged (October 2020) with the Welsh Government Energy Service (WGES) to undertake a full review of fleet and business transport in order to ascertain the business and environmental case for switching to ULEVs. WGES aims to help organisations meet the WG's stated objective of all public-sector road transport transitioning to ULEV by 2030 and to support the move to Net Zero.

ACTIONS – Fleet Vehicles

- Undertake a review to identify the most appropriate fuel-powered vehicles for each of the Council's services and to identify opportunities for the introduction of ULEVs.
- Review current telematics reporting system to include more detailed analysis of CO₂ emissions and identify opportunities to support the reduction of whole-fleet emissions.
- Develop appropriate carbon-reduction target for the Council's fleet as part of annual review of Action Plan.

Business Mileage

The Council has reduced carbon emissions from its business mileage by over 50.16% since 2007/08 – from 1,288tCO₂e to 642 tCO₂e. An 11.93% reduction in emissions occurred from 2018/19 into 2019/20.

The Council is exploring opportunities for using electric pool cars, which will reduce grey fleet travel (where officers use their own vehicles).

Potential for the installation of more electric-vehicle chargepoints at Council buildings and in public car parks needs further investigation, as greater EV charging provision will also encourage wider uptake of ULEVs in the staff 'grey' fleet. The EV charging rolled out so far has aimed at meeting the needs of residents and visitors, and primarily to support and encourage the transition to electric vehicles.

The Council is in the process of reviewing its travel and subsistence policy, and in particular the mileage schemes relating to hybrid and electric vehicles, along with this the Council offers a car leasing employee benefits scheme, which regularly promotes electric vehicles due to them providing the greatest cost savings.

Ceredigion County Council has engaged (October 2020) with Welsh Government Energy Service (WGES) to undertake a full review of fleet and business transport, in order to ascertain the business and environmental case for switching to ULEVs.

Electric bicycle charging has been installed at the Canolfan Rheidol Council Office in Aberystwyth.

During the COVID pandemic period, most office based staff have been working from home. Better use has been made of technology to facilitate home working, with meetings continuing but being held virtually – this new way of working has significantly reduced the need for officer travel, providing emission reductions across the Authority. As we come out of this pandemic, it is important that we learn from and build on what has worked well over the last 12 months. There is an opportunity to develop an agile working policy, to ensure that we continue to monitor and reduce grey fleet/officer travel emissions. Agile working will also reduce emissions from staff commuting, which aren't currently recorded.

ACTIONS – Business Mileage

- Continue to expand the Council-owned EV-charging network.
- Continue to promote flexible ways of working, to ensure staff travel reductions seen during the COVID period continue
- Look at development of a Green Travel Plan, to include a review of the Council's business mileage in order to identify opportunities for the introduction of ULEVs.
- Development of an agile working policy
- Develop appropriate carbon-reduction target for the Council's business mileage as part of annual review of Action Plan.

Renewable Energy Generation and Carbon Offsetting

As of summer 2020, Ceredigion County Council has the following levels of renewable and low-carbon energy measures installed:

- Solar photovoltaic (PV) panels: 412 kW at 16 sites (equivalent to approx. 1,600 panels), many of which are schools.
- Solar PV-powered signs, lamps and street furniture – various locations.
- Biomass District heating – Aberaeron, provides heating and hot water to the Penmorfa Council Offices, Aberaeron Primary School and Min y Mor Care Home.
- Biomass District Heating – Aberystwyth, provides heating and hot water to the Canolfan Rheidol Council Offices, Welsh Government Office building, Plascrug Leisure Centre and Penweddig Secondary School.

Over recent years, the Council has sought to significantly increase the amount of renewable electricity that it generates but has been frustrated by the limited capacity of the local electricity-distribution network (National Grid). Previous applications to the electricity-distribution network operators – Scottish Power Energy Networks (SPEN) and Western Power Distribution (WPD) – for connecting to the electricity network have resulted in financial quotes that have made the scheme unviable.

Therefore, while Ceredigion County Council's preferred primary method of compensating for its residual carbon footprint is to significantly increase the amount of renewable energy generated on its land, this relies on enhancements to the capacity of the local electricity-distribution network. Unfortunately, this is beyond the direct control of the Council – and discussions are ongoing with SPEN, WPD and the Welsh Government to seek the necessary improvements.

The Council is working with the Welsh Government Energy Service (WGES) to explore and deliver opportunities for larger-scale renewable-energy projects. The WGES supports the public sector in Wales to bring tangible projects to fruition and advises on energy-related issues. It is currently undertaking a review of the Council's land in order to identify potential opportunities for ground-mounted solar PV and wind turbines. Future renewable-energy generation on Council-owned land will depend on grid capacity (or having a local off-loader for power generated), and will also need to be satisfactory ecological terms and obtain planning permission.

Carbon offsetting involves compensating for carbon dioxide (CO₂) emissions arising from industrial or other human activity by participating in schemes designed to make equivalent reductions of CO₂ in the atmosphere. Because one unit of CO₂ has the same climate impact wherever it is emitted, the benefit is the same wherever it is reduced or avoided. Achieving verified carbon reductions could include investing in protecting rainforests in South America or, other global schemes and potentially, local actions such as tree planting, woodland management and peatland restoration. This can be a complex issue and represents the option of last resort unless tree planting/peatland enhancement on Council-controlled land is yet to be deemed to qualify for carbon offsetting (Note: This to be confirmed when the Welsh Government publishes its land-use guidance as part of the carbon-neutral public services reporting framework).

In recognising that the carbon-sequestration ability of soils and grasslands should not be overlooked, and that managed pasture for soil health instead of production gives benefits to carbon storage and the regulation of water runoff, the Council is reviewing practices for safeguarding and increasing carbon storage in soils and biomass, such as:

- Changing agricultural practices on Ceredigion's County Farms to reduce emissions production and increase carbon sequestration through good soil management.
- Engaging with the agri-food sector to gain an understanding of how the Council might be able to support more sustainable farming practices across the County.
- Increased green infrastructure – owned and managed by either CCC or third parties, to include biodiversity enhancements and public access.

- Coastal management – since ‘coastal squeeze’ due to rising sea levels is an issue in coastal habitats, exploring allowing habitats to retreat one field back from the shoreline in order to increase extent.

ACTIONS – Renewable Energy Generation and Carbon offsetting

- Work with Welsh Government Energy Service to explore and deliver opportunities for large-scale renewable-energy projects.
- Work with LASER Energy & National Procurement Service to support greater procurement of energy from locally generated renewable-energy projects.
- Explore the feasibility of, and identify land for, tree planting and other such measures (such as increasing the carbon store in soils and biomass) on Council-controlled land in order to contribute towards carbon offsetting.
- Development and implementation of a Tree Strategy – which will include future management of existing and proposed areas of woodland, management plans, removal of trees and life cycle.
- Development and implementation of an Agri-food Strategy – exploring opportunities for local production and consumption in Ceredigion schools and care homes. This will lower food miles and provide better soil management.
- Develop appropriate target for renewable-energy generation as part of annual review of Action Plan.

Collaboration

In order to achieve our net zero carbon target, collaboration with Welsh Government, public sector bodies, local Public Service Boards, Growing Mid Wales partners as well as private, third and community sectors is going to be essential.

Working with Welsh Government

The Environment (Wales) Act 2016 sets a target for the Welsh Government to reduce greenhouse gas emissions by at least 80% (on 1990 levels) by 2050. The Welsh Government declared a climate emergency on 29 April 2019 and, as a response, accepted the recommendations from the UK Committee on Climate Change for emission reduction of 95% by 2050 with the ambition to be net zero (Note: For Wales/Ceredigion carbon emissions, see <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018>, January 2021).

‘Prosperity for All: A Low Carbon Wales’ (March 2018) sets out the Welsh Government’s approach to cutting carbon emissions and increasing efficiency in a way that maximises the wider benefits for Wales, ensuring a fairer and healthier society. It sets out 100 policies and proposals that directly reduce emissions and support the growth of the low-carbon economy across all areas of government, including:

- increasing tree planting to, initially, at least 2,000 hectares per year and then doubling that to 4,000 hectares as rapidly as possible;
- commissioning an independent feasibility study on carbon-capture use and storage;
- reducing emissions from power generation in Wales, including using consenting, planning and permitting powers and developing a policy position on the fuels used to generate power;
- encouraging the take-up of electric vehicles by developing a rapid charging network;
- an ambition for buses, taxis and private-hire vehicles to be zero emission by 2028;
- reviewing Building Regulations to explore how higher energy-efficiency standards can be set for new builds;
- working with partners to include more about sustainability and decarbonisation in the new curriculum; and
- providing fruit and fuel trees for the entire Mount Elgon region in Uganda by 2030 (carbon offsetting).

The Welsh Government has an ambition for a carbon-neutral public sector by 2030, and will be supporting the public sector to baseline, monitor and report progress towards carbon neutrality (Policy 20, 'Prosperity for All: A Low Carbon Wales'). Based on recent carbon footprinting undertaken by Natural Resources Wales and NHS Wales, the Welsh Government proposes to prioritise the following four key themes to meet this ambition:

- (1) Mobility and Transport;
- (2) Procurement;
- (3) Land Use; and
- (4) Buildings.

Aether Ltd has secured the contract to develop the reporting guidance, working with public bodies and Welsh Government to establish consistent, Wales-wide methodologies for carbon-emissions reporting. The final set of documentation was to be delivered to the Welsh Government by the end of 2019/20 but this has been delayed due to COVID-19. It is currently intended that final documentation be circulated to all public bodies in the coming months. This will assist in baselining carbon emissions, developing plans and monitoring progress towards emissions-reduction targets.

As mentioned in previous sections, the Council is working with the Welsh Government Energy Service to explore and deliver opportunities for large-scale renewable-energy projects and ULEVs.

As outlined previously, the 'Re:fit' project is a collaboration between Welsh Government and the Welsh Public Sector using a pre-procured contractor framework and Salix invest-to-save funds.

The Council is part of the WG Hydrogen Reference Group, which intends to promote discussions on the best way for Wales to progress this market. The group is closely linked into MH:EK and the South Wales Industrial Cluster (SWIC), as well as the broader hydrogen supply chain and networks. WG intends to develop its hydrogen policy position and identify funding opportunities. The outcomes from this group work will, in turn, feed through into the Welsh Government's internal hydrogen group, which includes representatives from across many departments with interests in hydrogen.

The Welsh Government Energy Service is developing a Regional Energy Plan for the Mid Wales Region based on recent work produced by the Institute of Welsh Affairs (IWA) and Regen SBCR a Renewable Energy Future. The Council is engaged with this work stream.

Working with Ceredigion Public Services Board / Growing Mid Wales partners

The Well-being of Future Generations (Wales) Act 2015 established a statutory board, known as a Public Services Board (PSB), in each local authority area in Wales - each PSB is a collection of public bodies working together to improve the well-being of its County.

Ceredigion County Council is an active member of the Climate Change and Natural Resources Working group, which is a sub-group of the Ceredigion PSB.

Collaboration with Experts from Private, Third and Community Sectors

The Well-being of Future Generations (Wales) Act 2015 requires public bodies in Wales to think about the long-term impact of their decisions; to work better with people, communities and each other; and to prevent persistent problems such as poverty, health inequalities and climate change. The Act requires public bodies to implement five key ways of working in future decision-making:

- 1) looking to the long-term;
- 2) taking an integrated approach;
- 3) involving a diversity of the population;
- 4) working with others in a collaborative way; and
- 5) understanding the root causes of issues to prevent them from recurring.

The Council works in close collaboration with a vast range of private, third-sector and community partners. These include, but are not limited to:

- Welsh Government
- Consortium of local Authorities in Wales (CLAW)
- Welsh Local Government Association (WLGA)
- Ceredigion Public Service Board
- Association for Public Service Excellence (APSE)
- Community Councils
- Hywel Dda University Health Board
- Association of Local Government Ecologists
- Wales Local Nature Partnership Project

ACTIONS – Collaboration

- Continue to engage with Welsh Government in all areas of decarbonisation.
- Work with Ceredigion PSB partners to identify and develop opportunities for collaboration in relation to carbon reduction.
- Work with Welsh Government and Mid Wales Region partners to establish a Regional Energy Plan for Mid Wales.
- Identify additional partners and landowners for potential carbon reduction joint working.
- Work with the Council's private-sector partners and major landowners to explore innovative approaches to carbon reduction.
- Collaborate with Ceredigion's third sector and community organisations to explore carbon-reduction opportunities and further renewable-energy aims.

Integration and Communication

The Council has adopted a corporate approach to draft this action plan with regular meetings chaired by Cllr Alun Williams and attended by various Council Officers and Cabinet Members, Representatives from Welsh Government Energy Service have also attended meetings.

It is recognised that Staff and Member awareness and buy-in will be required to enable the Council to successfully deliver the Net Zero Carbon Plan - this will require specific training and communications - initially, it is proposed to undertake a Staff survey to identify how individuals can contribute to the Council's commitment to become a net zero carbon local authority.

Integrated Impact Assessments (IIA) are undertaken for Council projects, proposals and decisions, An IIA incorporates the principles of the Well-being of Future Generations (Wales) Act 2015 and the Sustainable Development Principles, the Equality Act 2010 and the Welsh Language Measure 2011 (Welsh Language Standards requirements) and Risk Management in order to inform effective decision making and ensuring compliance with respective legislation.

In September 2019 the young Swedish activist Greta Thunberg inspired millions of young people and adults throughout the world who to take part in the global 'Climate Strike', demanding urgent action in tackling the climate crisis - young people from Aberystwyth schools went "on strike" to press for action on climate change and a number of Ceredigion councillors and officers spent time listening and discussing with them.

Performance on progress towards becoming a net zero carbon local authority by 2030 will be reported annually, together with annual reviews of the action plan.

ACTIONS – Integration and Communication

- Undertake Staff survey to identify how individuals can contribute to the Council's commitment to become a net zero carbon local authority
- Provide staff training on carbon reduction in their day to day work and specialist areas – include carbon reduction as part of the Council's corporate induction
- Consolidate smarter working practices to create further decarbonisation efficiencies – e.g. smarter use of workplaces, home working and reduced commuting mileages. The well-being and working conditions of employees must be paramount in this consideration – including equipping staff with suitable office furniture and energy-efficient equipment.
- Incorporate climate change / carbon reduction in Integrated Impact Assessment process undertaken by Council
- Review Action Plan following publication of Welsh Government guidance regarding new national carbon-reporting framework.

Performance on progress towards becoming a net zero carbon local authority by 2030 will be **reported annually**, together with annual reviews of the action plan.

Appendix 1

Actions Summary

ACTIONS – Operational Buildings

- Delivery of 'Re:fit' (Energy Efficiency) Scheme in operational property to achieve energy/carbon savings
- Develop further potential phases of 'Re:fit' (Energy Efficiency) project, or similar, to achieve accelerated energy/carbon savings.
- Incorporate wording into new build and construction design briefs to state that Ceredigion County Council require that new buildings are carbon neutral/net zero carbon in their energy use – and preferably carbon positive, in that they generate more energy than they can consume.
- Adopt the 'Fabric first' standard, where appropriate, in new building-construction projects.
- Continually review and amend design specifications and briefs to reflect new technologies and energy-efficient equipment.
- Extend 'smart' and sub-metering technology to ensure accurate and timely capture of energy-consumption data. Consider application for water smart metering.
- Develop appropriate carbon-reduction target for the Council's non-domestic buildings as part of annual review of Action Plan.

ACTIONS - Streetlighting

- Develop appropriate carbon-reduction target for the Council's street lighting as part of annual review of Action Plan.
- Upgrade remaining high-power-demand street lights to LED by end of March 2022 using agreed Ceredigion County Council funding.
- Replace any street lights that no longer comply if the Council cannot economically repair – i.e. repair costs more than a new Energy efficient LED lamp.

ACTIONS – Fleet Vehicles

- Undertake a review to identify the most appropriate fuel-powered vehicles for each of the Council's services and to identify opportunities for the introduction of ULEVs.
- Review current telematics reporting system to include more detailed analysis of CO₂ emissions and identify opportunities to support the reduction of whole-fleet emissions.
- Develop appropriate carbon-reduction target for the Council's fleet as part of annual review of Action Plan.

ACTIONS – Business Mileage

- Continue to expand the Council-owned EV-charging network.
- Continue to promote flexible ways of working, to ensure staff travel reductions seen during the COVID period continue
- Look at development of a Green Travel Plan, to include a review of the Council's business mileage in order to identify opportunities for the introduction of ULEVs.
- Development of an agile working policy
- Develop appropriate carbon-reduction target for the Council's business mileage as part of annual review of Action Plan.

ACTIONS – Renewable Energy Generation and Carbon offsetting

- Work with Welsh Government Energy Service to explore and deliver opportunities for large-scale renewable-energy projects.
- Work with LASER Energy & National Procurement Service to support greater procurement of energy from locally generated renewable-energy projects.
- Explore the feasibility of, and identify land for, tree planting and other such measures (such as increasing the carbon store in soils and biomass) on Council-controlled land in order to contribute towards carbon offsetting.
- Development and implementation of a Tree Strategy – which will include future management of existing and proposed areas of woodland, management plans, removal of trees and life cycle.

- Development and implementation of an Agri-food Strategy – exploring opportunities for local production and consumption in Ceredigion schools and care homes. This will lower food miles and provide better soil management.
- Develop appropriate target for renewable-energy generation as part of annual review of Action Plan.

ACTIONS – Collaboration

- Continue to engage with Welsh Government in all areas of decarbonisation.
- Work with Ceredigion PSB partners to identify and develop opportunities for collaboration in relation to carbon reduction.
- Work with Welsh Government and Mid Wales Region partners to establish a Regional Energy Plan for Mid Wales.
- Identify additional partners and landowners for potential carbon reduction joint working.
- Work with the Council’s private-sector partners and major landowners to explore innovative approaches to carbon reduction.
- Collaborate with Ceredigion’s third sector and community organisations to explore carbon-reduction opportunities and further renewable-energy aims.

ACTIONS – Integration and Communication

- Undertake Staff survey to identify how individuals can contribute to the Council’s commitment to become a net zero carbon local authority
- Provide staff training on carbon reduction in their day to day work and specialist areas – include carbon reduction as part of the Council’s corporate induction
- Consolidate smarter working practices to create further decarbonisation efficiencies – e.g. smarter use of workplaces, home working and reduced commuting mileages. The well-being and working conditions of employees must be paramount in this consideration – including equipping staff with suitable office furniture and energy-efficient equipment.
- Incorporate climate change / carbon reduction in Integrated Impact Assessment process undertaken by Council
- Review Action Plan following publication of Welsh Government guidance regarding new national carbon-reporting framework.

Appendix 2

Carbon Reduction Summary – Operational Emissions

Key Measures of Success	2007/08	2017/18	2018/19	2019/20	2018/19 vs. 2019/20	
					Status	% change
Non Domestic Buildings						
Consumption (kWh)	33,181,924	25,243,982	23,824,245	23,165,854	Improved	-2.76%
Carbon Emissions (tCO ₂ e)	11,034	5,557	5,177	4,918	Improved	-5.01%
Streetlighting						
Consumption (kWh)	2,789,852	1,473,489	1,430,263	1,176,392	Improved	-17.75%
Carbon Emissions (tCO ₂ e)	1,503	518	435	326	Improved	-25.06%
Fleet Vehicles						
Consumption (Litres)	735,921	687,747	676,698	679,623	Declined	0.43%
Carbon Emissions (tCO ₂ e)	1,995	1,867	1,802	1,762	Improved	-2.22%
Business Mileage						
Mileage (miles)	3,907,910	2,592,354	2,573,678	2,301,840	Improved	-10.56%
Carbon Emissions (tCO ₂ e)	1,288	784	729	642	Improved	-11.93%

Carbon Footprint	-	Renewable Energy Generation Carbon Offsetting	=	Net Carbon Zero
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Carbon Footprint 2019/20	-	Renewable Energy Generation	+	Tree Planting	=	Net Carbon Zero
	Carbon Emissions (tCO ₂ e)	Wind (no of turbines)	Solar PV (no of panels)	Tree planting (no of trees)		
Operational Buildings	4,918	16	81,967	491,800	=	0 tCO ₂ e
Streetlighting	326	1	5,433	32,600	=	0 tCO ₂ e
Fleet Vehicles	1,762	6	29,367	176,200	=	0 tCO ₂ e
Business Mileage	642	2	10,700	64,200	=	0 tCO ₂ e
	7,648	25	127,467	764,800	=	0 tCO ₂ e
		13.5 MWh	32 MWh	478 ha		

Wind: above based on number of 500kW turbines, with an estimated annual generation of 1,200,000 kWh/year, or 306.7 tCO₂e

Solar: above based on number of individual 250W PV panels, with an estimated annual generation of 235kWh/year = 0.06 tCO₂e

Trees: above assumes one broad leaf tree will absorb in the region of 1 tonne of carbon dioxide during its full life-time (approximately 100 years), planted at a rate of 1,600 trees per hectare

Notes:

1. The equivalent number of wind turbines and solar PV panels is based on a high-level calculation that will change year-on-year with changes in the UK emission conversion factor for electricity. Whilst this metric is used to help demonstrate the scale of the task, it is purely meant for illustrative purposes only as it is dependent on many external variables.
2. The equivalent number of trees is based on a high-level calculation and is dependent on many external variables. Whilst this metric is used to help demonstrate the scale of the task, it is purely meant for illustrative purposes only.
3. Welsh Government will be introducing a new national carbon reporting framework in 2021; consequently, the above performance data may not be directly comparable after this date.

Appendix 3

Current Decarbonisation Policy

The policy landscape around decarbonisation is constantly evolving, but relevant recent policy is captured here, with links to relevant documents where available:

The Welsh Government (WG) target for a carbon-neutral public sector by 2030.

[Environment \(Wales\) Act 2016](#), Part II relates to Climate change and specifies an 80% reduction in all-Wales net emissions by 2050 against a 1990 baseline [Ceredigion started accurately recording emissions data in 2007/08 when our first Carbon Management Plan was put in place, so 2007/08 is CCC's only viable baseline year].

WG target for 70% of electricity used in Wales to be from renewable sources by 2030 [the equivalent of 50% of Wales' electricity consumption was met from renewable sources in 2018 compared with 48% in 2017 and 43% in 2016].

WG target for 1 gigawatt (GW) of renewable-electricity capacity in Wales to be locally owned by 2030 and for all new projects to have an element of local ownership by 2020. [Wales is already 77% towards having 1 GW of renewable-energy capacity that is locally owned, with the total installed capacity of locally owned electricity projects up to the end of 2018 at almost 778 megawatts (MW)].

In March 2019, Welsh Government launched '[Prosperity for All: A Low Carbon Wales](#)' – a cross-government plan to cut emissions and contribute to the global fight against climate change.

In May 2019, the UK Committee on Climate Change (UKCCC) recommended that a 100% reduction in greenhouse gas emissions should be legislated for 'as soon as possible', and urged government to set a net-zero CO₂ emissions target by 2050.

In May 2019, following the lead set by both Welsh and Scottish governments, the House of Commons declared a climate emergency.

In June 2019, WG declared that Wales would accept the Committee on Climate Change (CCC) recommendation for a 95% reduction in (Wales-specific) greenhouse gas emissions by 2050 and go further with an ambition to reach net zero.

[Wellbeing of Future Generations \(Wales\) Act 2015](#), The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

Promoting environmental and community resilience is a corporate priority, which is set out within [Ceredigion County Council's Corporate Strategy](#).

Appendix 4

Glossary of Terms

Units of measurement

A carbon footprint is measured in tonnes of carbon dioxide equivalent (tCO_{2e}). The carbon dioxide equivalent (CO_{2e}) allows the different greenhouse gases to be compared on a like-for-like basis relative to one unit of CO₂. CO_{2e} is calculated by multiplying the emissions of each of the six greenhouse gases by its 100 year global warming potential.

A carbon footprint considers all six of the Kyoto Protocol greenhouse gases: Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF₆).

Source - <https://www.carbontrust.com/resources/guides/carbon-footprinting-and-reporting/carbon-footprinting/>

A **kilowatt (kW)** is simply 1,000 watts, which is a measure of power, eg a 10,000 watt electric shower could also be called a 10 kilowatt shower.

A **megawatt (MW)** is simply 1,000 kilowatts, which is a measure of power, eg a gigawatt (GW) is 1,000 megawatts and a terawatt (TW) is 1,000 gigawatts

A **kilowatt hour (kWh)** is a measure of how much energy is being used; it doesn't mean the number of kilowatts used per hour, it is simply a unit of measurement that equals the amount of energy one would use to keep a 1,000 watt appliance running for an hour, for example:

- One 100 watt light bulb would take 10 hours to rack-up 1 kWh of energy.
- One 2,000 watt appliance would use 1 kWh in just half an hour.
- One 50 watt item could stay on for 20 hours before it used 1 kWh.

Source - <https://www.ovoenergy.com/guides/energy-guides/what-is-a-kwh-kw-and-kwh-explained.html>

A **megawatt hour (MWh)** is 1000 kWh.

Explanations:

Terminology related to climate change can be difficult to understand especially for those with infrequent contact with the topic. Below are some terms which are commonly used:

Carbon Accounting - carbon accounting covers a wide range of different practices and means different things to different groups of people but can generally be split into two categories: physical carbon accounting (which looks at quantifying physical amounts greenhouse gas emissions to the atmosphere), and financial carbon accounting (which looks at giving carbon a financial market value). Physical carbon accounting can be used to help companies and countries work out how much carbon they are emitting into the atmosphere, this is known as a greenhouse gas inventory. Once it has been established how much carbon is being emitted, reduction targets can be set. This method is also important for helping to assign responsibility to different parties for their associated carbon emissions.

Carbon accounting provides the tools to not only quantify and measure carbon emissions but also to help make informed decisions with regards to mitigation strategies:

- How much carbon is being emitted?
- Who is responsible for these emissions?
- Which methods should we employ to achieve the biggest carbon reductions?

- Are there strategies or policies which appear 'green' but actually increase our carbon emissions?

Carbon accounting can help to answer all these questions, but it can be a complex process.

Source – <https://www.ed.ac.uk/sustainability/what-we-do/climate-change/case-studies/climate-research/carbon-accounting>

Net Zero Carbon – it is clear from the science that the amount of CO₂ in the atmosphere resulting from human activity largely determines the extent of global warming. This means that to prevent catastrophic climate change, CO₂ emissions need to be reduced to zero. The science led to governments worldwide agreeing to achieve a balance between emissions and removal of greenhouse gases, in the Paris Agreement. 'Net zero' refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere. Like a bath with the taps on, an approach to achieving this balance can either be to turn down the taps (the emissions) or to drain an equal amount down the plug (removals of emissions from the atmosphere, including storage for the emissions such as 'carbon sinks' i.e. anything that absorbs more carbon than it releases as carbon dioxide. European forests are currently a net carbon sink as they take in more carbon than they emit).

Source - <http://www.lse.ac.uk/GranthamInstitute/news/what-is-net-zero/>

Carbon Neutral - carbon neutrality means annual zero net anthropogenic (human caused or influenced) CO₂ emissions by a certain date. By definition, carbon neutrality means every tonne of anthropogenic CO₂ emitted is compensated with an equivalent amount of CO₂ removed (e.g. via carbon offsetting).

Source – <https://www.wri.org/blog/2015/12/cop21-glossary-terms-guiding-long-term-emissions-reduction-goal>

- The Council has committed to become a 'Net Zero Carbon' local authority whilst the Welsh Government has an ambition for a 'Carbon Neutral' Welsh public sector. Within the confines of this document both these terms are inter-changeable.

Carbon Offsetting - put simply, offsetting means securing carbon credits equivalent to one's carbon impact. This means compensating for every tonne of CO₂ emitted by ensuring there is one tonne less in the atmosphere. Because one unit of CO₂ has the same climate impact wherever it is emitted, the benefit is the same wherever it is reduced or avoided. Achieving verified carbon reductions could include protecting rainforests in Sierra Leone or potentially local tree planting.

Source - <https://climatecare.org/carbon-offsetting/>

Appendix 5

Climate Emergency

The initial focus of this action plan for a route towards becoming a net zero carbon local authority is not intended to limit or preclude other potential wider actions that contribute towards addressing the climate emergency.

Some of these actions are identified below (this is not an exhaustive list):

Housing

- The Ceredigion Energy Company Obligation Local Authority Flexibility (ECO LA Flex 3) grant scheme commenced in October 2019 and will be available until March 2022. This scheme is available countywide and covers energy-inefficient homes that either spend more than 10% of their income on fuel or are on low income and are vulnerable to the cold. The grant goes towards home energy-efficiency measures involving heating upgrades and insulation. Since September 2019, over 173 properties have received improvements through the scheme.
- In March 2019 we commenced a Warm Homes Fund project delivering 140 first time central heating systems with the necessary insulation measures in the homes of vulnerable low income households. These installations were a mix of LPG systems and air source heat pumps. This scheme will come to an end in March 2021 and we are currently in discussion with the funders in relation to delivering a Phase 2 scheme for a further 140 installations in the next 12 months.
- The Welsh Government Warm Homes Arbed 3 programme are currently evaluating the properties in the Cardigan area in readiness for submission of a report to WG to determine feasibility of a scheme. This will include the installation of heating systems/upgrades and insulation measures in privately owned properties (both owner occupied and privately rented). The aim is undertake a minimum of 100 installations.
- Ceredigion County Council are currently considering various other funding opportunities in order to tackle climate change within the county and reduce the carbon footprint.

Planning, Development, Land Use and Biodiversity

The Ceredigion Local Development Plan 2007-2022 (LDP1) was adopted in April 2013 and seeks to govern how and where development takes place throughout the County by setting out a series of policies and proposals. The LDP is used in the determination of all planning applications in Ceredigion. A core element of the LDP is the principle of sustainable development. The LDP also has an objective to ensure development minimises Ceredigion's greenhouse gas contribution, both singularly and cumulatively, and to seek a reduction wherever possible. The plan's strategy seeks to secure sustainable development via the Settlement Hierarchy, which aims to direct development to locations with a high level of services. This in turn reduces the need to travel which subsequently contributes to a reduction in carbon emissions.

The principle of sustainable development is also consistent throughout the plan's policies. This is evidenced, for example, in policies supportive of renewable energy developments and sustainable travel infrastructure. To ensure the delivery of sustainable development, the LDP is also subjected to a Sustainability Appraisal which incorporates a Strategic Environmental Assessment (SA/SEA). The purpose of these tools is to ensure that policies and proposals in the LDP reflect sustainable development principles and take into account the significant effects of the plan on the environment.

Ceredigion's current Local Development Plan (LDP 1) has been subjected to monitoring on an annual basis through the medium of the Annual Monitoring Report (AMR). The findings of the 3rd AMR triggered a plan review which informed the completion of the LDP Review Report published in November 2017. The outcome recommended the commencement of a replacement LDP (LDP 2). The

replacement plan will cover the period 2018-2033. The revised LDP will seek to maintain the principle of sustainable development and seek to address climate change throughout, further focussing development to the most sustainable locations which are accessible by sustainable transport modes and have the necessary capabilities to support home working. The change in travel to work behaviours arising from COVID 19 pandemic are likely to become a permanent feature, with at least 30% of workers/work hours working from home being the norm going forward, according to Welsh Government policy intentions. Telemedicine and other uses of digital communications are also likely to impact on the need to travel (the first sustainable development principle) and on car miles travelled in particular for a dispersed rural population such as that in Ceredigion (where approximately 60% of residents live outside the main towns and viable public transport services are a challenge).

As part of the revision process, a Climate Change Topic Paper is being compiled. The paper takes account of any relevant legislation, strategies, policies, guidance and evidence which has been published or altered since the adoption of LDP1. This, in turn, informs any necessary changes to the plan in the context of climate change. One outcome identified thus far has been the need to produce an overarching strategic climate change policy. Whilst not compulsory, the addition of a strategic policy was identified by officers as the most appropriate mechanism to address concerns relating to climate change and development. The policy will seek to set out criterion governing development proposals in relation to carbon emissions, previously developed land, energy efficiency, renewable energy generation, climate responsive design, sustainable construction methods, the management, protection and enhancement of ecosystem services, water resources, the best and most versatile land and green infrastructure assets and networks which act as carbon sinks. In addition, it will further seek to avoid and minimise flood risk taking a nature based solutions first approach.

A Renewable Energy Assessment (REA), which constitutes part of the evidence base and thus informs the replacement plan, has also been recently conducted. The REA is a high-level strategic assessment of the potential for renewable and low and zero carbon energy generation across the County. The REA sets out a series of renewable energy targets and local areas of search for wind and solar. Collectively, this will inform the replacement plan and in turn seek to facilitate the development and use of renewable and low and zero carbon energy technologies in Ceredigion.

Flooding, as a hazard, must be considered to inform the LDP process; which involves the consideration of the potential consequences of flooding as well as the likelihood of an event occurring. Planning authorities should adopt a precautionary approach of positive avoidance of development in areas at risk of flooding, with additional consideration of surface water flooding and shoreline management plans.

Planning Policy Wales (PPW), supported by Technical Advice Note 15 (TAN15 currently under review), provides a precautionary framework to direct new development away from areas at high risk of flooding. In particular, vulnerable developments, described in TAN 15, are required to be directed away from areas at risk of flooding.

Development Advice Maps enable planning authorities to take a strategic approach to flood risk and consider the catchment as a whole by providing a preliminary representation of flood risks, which informs the LDP process. In addition, flood consequences assessments should assist the understanding of how natural and man-made defences work as integral components of places and provide a means by which the cumulative effects of development can begin to be understood, to help manage flood risk at an early stage.

CCC is currently preparing a Strategic Flood Consequences Assessment (SFCA) to form part of the evidence base for the replacement LDP.

The SFCA will support the Council's role in achieving sustainable development through managing flood risk and avoiding future impacts of flooding. The SFCA will also assist Ceredigion in a broader sense

by helping to tackle key issues such as designing for climate change, nature and biodiversity conservation, ecological connectivity and enhancing the natural environment and its services.

A Green Infrastructure Assessment (GIA) has recently been undertaken. This contains maps and associated commentary on existing urban green infrastructure assets and habitats for Ceredigion's six main towns plus Adpar (sister settlement to Newcastle Emlyn, Carmarthenshire), and on the land-based designations for the county as a whole, as well as identifying the extent of connectivity for wildlife between existing core habitats and for people between existing green infrastructure assets and between urban and rural areas. It establishes the key opportunities and priorities for delivering Green Infrastructure improvements for each of the main towns, plus the county as a whole.

The GI Assessment suggests that, based on the identification of broad habitats within each of the 2km buffers around towns, and the ecosystem services likely to be provided by these habitats, it would appear that the towns which benefit the most from higher levels of habitat-based ecosystem service provision are Aberystwyth, Aberaeron and Cardigan. This could be in part because these are coastal towns which benefit from the cultural and regulating services provided by Ceredigion's coast and its habitats. Tregaron has notable ecosystem service provision to the north, where the Ramsar site and mire habitat is located. In terms of ecosystem service needs, Cardigan, Adpar, and the more densely developed western and southern parts of Aberystwyth would benefit from the creation of GI (e.g. planting of trees and hedges and appropriately managed grasslands) to reduce levels of particulate air pollutants.

Sustainable flood management measures, such as installation of sustainable drainage systems, tree planting, or creation of large-scale green space (where feasible) aligned with natural flood management approaches such as managed retreats, may be beneficial in Lampeter and in the east of Tregaron where the risk of surface water flooding is highest.

Priority should be given to creating new GI that addresses identified deficiencies in GI and ecosystem services provision, and extends and connects the existing network. Other prioritised opportunities will relate more to enhancing the quality, accessibility and awareness of existing GI. At the scale of the County, increased provision of woodland and expansion/restoration of peat bogs would help to remove carbon dioxide from the atmosphere (as well as reducing flooding downstream and providing cooling benefits), thus contributing towards CCC's commitment to become a net zero carbon local authority by 2030. Policies to support such development will be included in the replacement LDP.

Specific projects that link to the GIA are the 'Connecting with Nature' Ceredigion PSB project due for completion by the end of March 2021, with funding of £25k from NRW, which is tasked to identify publicly owned land which can be managed, improved and enhanced for biodiversity and be opened to public access, volunteering and wellbeing activities. It will identify 6 priority opportunities from a long list linked to potential for enhancing the positive reconnection of people within their communities by considering specific issues, using information and evidence already gathered during preparation of the Green Infrastructure Assessment report. Further settlement specific GI work is being undertaken with cross border partners in Carmarthenshire and NRW to map assets and needs around climate resilience in Newcastle Emlyn.

Amendments to building regulations notwithstanding a new policy may be introduced into the LDP regarding electric charging points for new developments to increase this provision in both residential and non-residential development. Key issues for Ceredigion relate to development of EV charging facilities in the public realm and on the arterial roads, to ensure availability of EV charging points for use by residential householders without off-road parking and for rural residents who need to make relatively long journeys for shopping/leisure/hospital visits, etc., and for tourists and leisure visitors for whom recharging facilities will be an important factor in choosing their holiday/leisure destination.

Waste and Environmental Services

- The Council operates the following kerbside collection service:
 - Dry mixed recyclates (paper, card, plastics, cans and cartons) - collected weekly
 - Food waste - collected weekly
 - Absorbent hygiene products - collected fortnightly on application
 - Glass bottles and jars - collected 3 weekly
 - Non-recyclable waste - collected 3 weekly
 - Garden waste and bulky household waste - collected on request
- The Council's trade waste customers are given opportunities to recycle dry mixed recyclate and food waste.
- Waste collection routes are reviewed on an ongoing basis to improve efficiency.
- The collected food waste is treated by anaerobic digestion to produce digestate (slurry-like fertilizer) which is spread on local agricultural land and biogas, used to produce heat and power.
- The non-recyclable waste collected at the kerbside is treated by energy from waste to generate electricity.
- The Council provides four household waste sites in the county, where residents can deposit a wide range of domestic waste materials.
- The Council works with and supports local re-use organisations, helping to find new homes for unwanted quality household items.
- The Council's performance for recycling, composting and preparation for re-use was 72% in 2019/20, compared to a statutory target of 64%.
- The Council continues to work with stakeholders to educate residents about the benefits of waste prevention, re-use and recycling.
- The Council fully supports community efforts to reduce the use of single-use plastic within the county and has significantly reduced its own usage by steps such as:
 - Removing plastic milk bottles and straws in schools and replacing with non-plastic alternatives.
 - Ending the use of plastic cups, cutlery and pre-packed sachets in civic canteens.
 - Installing public drinking fountains

Procurement

Ceredigion County Council is committed to delivering sustainable solutions including the reduction of carbon emissions and recognises the key role procurement has in achieving this goal. The latest procurement strategy maximises the contribution towards sustainable development through the embedding the Wellbeing of Future Generations (Wales) Act 2015 Sustainable Development Principles in procurement processes. Specifically the Strategy will deliver a healthy environment through procuring sustainable solutions and by pre-qualifying prospective suppliers on their sustainability records and values. Actions within the Strategy include:

- Develop commodity strategies through Category Management, eg increase local sourcing and procure sustainable solutions.
- Work with suppliers to help them improve and become more sustainable.

The Corporate Procurement Team has representation on the Council's Carbon Reduction Group and the Project Management Panel, which facilitates early engagement with project managers on associated sustainability considerations, as well as other matters. The team also played a key role in the Plastic Free Ceredigion Task & Finish Group, which was successful in eliminating a number of single use plastics used by the Authority. Subsequently the Council has lead on a national framework for catering packaging which enables organisations to transition from traditional plastic products to sustainable solutions.

During the framework development process procurement officers worked closely with WRAP Cymru and Welsh Government Policy makers and their input captured within the specification. Looking ahead, the procurement team is currently working on a Foundational Economy project that includes strands to enhance the local supply base and food, with the aim of delivering positive economic and health impacts in the County.

Coastal Protection, Flooding and Drainage

- All Coast Protection and Flood Alleviation schemes undertaken by the Council are designed to include climate change allowances in accordance with Welsh Government guidelines.
- Surface-water drainage systems on new developments will also need to be designed to cater for a 1-in-100-year rainfall event plus 30% allowance for climate change.
- Ceredigion County Council oversees Schedule 3 under the Flood & Water Management Act 2010 which requires new developments to include Sustainable Drainage Systems (SuDS) features. This may require on-site provision of rills, leats, ponds, etc.

Transportation and Highways

Background

The Ceredigion highways asset consists of:

- 2,151km carriageways – used by public and school transport and cyclists
- 212 km of footways – used by pedestrians within settlements and providing a link between communities and tourism and other destinations
- Xx km of dedicated cycleways
- Xx km of shared use paths (pedestrians and cyclists)
- Local bus service network operating 2,882,977 kilometres of journeys (2019/20)
- There are also a large number of sections of public rights of way that may be accessed to make active and sustainable travel journeys.

Active Travel

The County Council must meet a number of statutory duties under the Active Travel (Wales) Act 2014. The Welsh Government has designated three Active Travel destinations (towns) in Ceredigion – Aberystwyth, Cardigan and Lampeter. This includes seeking to continuously improve (extend) the existing network and all new highways and transportation schemes should adhere to the Active Travel Design Guidance. The County Council was able to construct 1,155 km of new shared use path created in 2019/20. The Council is currently undertaking the required review of its existing network and developing future routes for development and inclusion in future work programmes. More information is available at: <http://www.ceredigion.gov.uk/resident/travel-roads-parking/active-travel/>

With sufficient public transport travel opportunities in rural areas, Active Travel is capable of providing more opportunities for modal shift away from car journeys primarily for shorter journeys. Welsh Government grant funding continues to be accessed to provide new and improved infrastructure.

The County Council has trail-blazed the provision of electric bicycle charging facilities to encourage take-up of e-bikes, particularly for a wider section of the population which might be less confident or able to cycle longer distances and in areas where the topography is more challenging to most potential cyclists.

The County Council has utilised the Welsh Government's Covid-19 Sustainable Travel Grant in 2020/21 to facilitate safe, socially-distanced pedestrian and cycling access within a number of its

towns - notably the creation and management of 'Safe Zones', improved cycle parking provision, widening of footways and new pedestrian links such as between Penmorfa Offices car park and Ysgol Gynradd, Aberaeron. The intention has been to create permanent facilities to encourage future walking and cycling at these locations.

Welsh Government grant funding has enabled the County Council to invest in Safe Routes in Communities schemes and Road Safety training and awareness programmes help to build infrastructure (particularly in and around schools) and provide the necessary skills and confidence amongst children and younger people to walk, ride and scoot safely. Alongside work to expand the network and promote Active Travel, these initiatives are helping to encourage more environmentally sustainable travel choices as children progress through to adulthood.

Whilst the Council is encouraged by the Welsh Government to focus on walking and cycling within the designated Active Travel towns and communities immediately surrounding these towns, there is potential to further develop the longer distance trails such as the Rheidol and Ystwyth trails connecting Aberystwyth and the Cardi Bach trail in Cardigan. Other routes may also be identified. If sufficiently developed, all have potential to encourage cycling over sections of these trails connecting communities and replacing some car journeys.

1.0 Bus Travel

The local bus network in Ceredigion consists mostly of services supported by Ceredigion Council and Welsh Government. The main arterial routes are well served by the following TrawsCymru services:

- T1 Aberystwyth –Aberaeron – Lampeter (and locations to Carmarthen)
- T1C Aberystwyth – Aberaeron – Llandysul (and locations to Cardiff)
- T2 Aberystwyth – Machynlleth (and locations to Bangor)
- T5 Aberystwyth – Aberaeron – Cardigan (and locations to Haverfordwest)

which provide regular and reliable local and longer distance travel opportunities. These are complemented and supported, with investment from CCC, by local bus services which interchange at key hubs including:

- Aberystwyth
- Aberaeron
- Cardigan
- Lampeter

In 2019/20 the Local Bus network in Ceredigion operated a total of 2,882,977 kilometres.

1.1 Bwcabus

The Bwcabus is an innovative transport solution which provides demand responsive as well as fixed route / timetable travel opportunities over a large area of south Ceredigion as well into neighbouring Carmarthenshire and Pembrokeshire.

1.2 Cardi Bach

The Cardi Bach is a bus service which serves the coastal communities between Cardigan and New Quay, linking into the wider bus network at both ends, affording local socially necessary journeys as well as access to the Ceredigion Coastal path.

- Community Transport – e.g. Cardigan Town Rider, Bws y Bro etc? see: <http://www.cavo.org.uk/archives/category/help-for-organisations/community-transport>

1.3 Learner Transport

CCC maintains 36 primary schools, 4 secondary schools, one 3-16 school and two 3-19 schools.

Free learner travel is provided for approximately 400 eligible primary school pupils and 2500 eligible secondary school pupils. The County Council therefore provides in the region of 1,102,000 learner transport journeys every year.

1.4 Integrated Network

The learner transport and local bus service arrangements are closely aligned and integrated. They support each other by optimising resources to provide and maintain travel opportunities which are unlikely to be viable and sustainable otherwise, this is especially true in the more rural and sparsely populated areas of Ceredigion.

2.0 Concessionary Fare Scheme

CCC facilitates the all Wales Concessionary Fare Scheme in Ceredigion with approximately 18,000 passes in circulation with 358,612 passenger journeys originating in Ceredigion undertaken in 2019/2020. The Scheme, funded by the Welsh Government (WG) and Local Authorities, entitles people over 60 and people with certain disabilities who are resident in Wales, to travel free at any time of day on local bus services throughout Wales, in addition to some train services.

3.0 Train Travel

Opportunities to travel by train, or a combination of bus train, active travel and private car occur at the following railway stations which are of particular relevance to Ceredigion:

- Machynlleth
- Dovey Junction
- Borth
- Bow Street
- Aberystwyth
- Carmarthen

The introduction of an almost hourly train service pattern on the Cambrian Main line between Aberystwyth and Shrewsbury over seven days of the week has significantly increased travel opportunities and integration with bus services, especially at Aberystwyth and Machynlleth and now from Bow Street.

From the outset, the County Council has supported the development and lobbied the Welsh Government for a new Aberystwyth North Park and Ride public transport interchange at Bow Street. The Transport for Wales Interchange is scheduled to open in February 2021 includes Ceredigion's first new railway station since the Beeching Cuts of the 1960s with bus interchange, cycle and car parking. The County Council has worked with the Welsh Government to develop and provide a network of active travel links to/ from the new Interchange. A potential Aberystwyth Park & Ride (South) at Rhydyfelin is identified in the current Local Transport Plan and the site has been identified as a candidate site for this use in the current Local Development Plan. Further development work would be required if this proposal was to be taken forward.

The County Council is a member of the Cambrian Railways Partnership – the Mid Wales regional community rail partnership covering the Cambrian Main Line and the Cambrian Cast Line. The Partnership seeks to promote the growth in use of rail passenger services for regular journeys and to promote 'green' tourism as well as representing the interests of local communities served by the Cambrian lines. Ceredigion County Council currently employs the Development Officer and provides financial management on behalf of the Partnership. See: <https://www.thecambrianline.co.uk/>

County Council Members attend the meetings of the Shrewsbury to Aberystwyth Rail Committee with officer support. The Committee brings together local authorities, local communities, rail users, Transport for Wales and the Rail Industry to develop service improvements and promote rail use within and to/ from Mid Wales – see: <http://shrewsburyaberystwythrailway.org/>

County Council Members have in the past resolved to support the development of plans for the reinstatement of the dismantled Aberystwyth to Carmarthen Railway Line. The proposal is being taken forward by the Welsh Government – see: <https://gov.wales/aberystwyth-carmarthen-rail-reinstatement-feasibility-study>

Sustainable Travel and New Developments

Highways is a statutory consultee in respect of applications made to the County Council as Local Planning Authority. The Highways Development Control service provides advice and support to developers during the pre-application and full application process. Highways may at times object to a development that it considers does not support or make sufficient provision for sustainable travel as defined in the relevant Local Development Plan policies – see: <http://www.ceredigion.gov.uk/resident/planning-building-control-and-sustainable-drainage-body-sab/planning-building-control/ceredigion-local-development-plan/> The Highways Development Control service will consider access to proposed developments by sustainable transport and travel and in some circumstances may recommend a requirement for a Travel Plan. The Local Planning Authority may choose to require financial contributions from developers towards the provision of sustainable travel infrastructure or services.

Sustainable Distribution (Freight/ goods)

A project was identified in the current Joint Mid Wales Local Transport Plan 2015-20. Possible potential for rail freight to reduce road-based transport of some goods, although opportunities have been investigated in the past including the timber freight trial/ pilot around 10 years ago. The length of journey between markets (considered to be too short for viable rail freight journeys), some constraints (bridges, curvature, signalling, availability of passing loops and line capacity) and lack of interest within the market resulted in little progress. Use of ‘cleaner’ fuels and changes to vehicle technology (electric and hydrogen) may serve to support de-carbonisation of goods distribution over time. The Marches Local Enterprise Partnership, the Growing Mid Wales Partnership published Marches and Mid Wales Freight Strategy in 2018 – see: http://www.tracc.gov.uk/uploads/media/Marches_and_Mid_Wales_Freight_Strategy_February_2018.pdf

EV Charging Proposals

The County Council has invested in providing electric vehicle (EV) charge-points available for use by the public at its Penmorfa Aberaeron and Canolfan Rheidol, Aberystwyth offices. The service is provide by Silverstone as part of its Dragon Charging Network – see: <https://www.dragoncharging.co.uk/>

Highways officers have to date unsuccessfully applied for Welsh Government transport grant funding to extend this arrangement to County Council-owned public off-street car parks across the County. A new grant funding application has however been submitted for the development of a Ceredigion EV network with some charge-point installation in the 2021/22 Financial Year as well as investigating opportunities for hydrogen as an alternative fuel – e.g. buses and freight. The outcome of this

application is currently awaited. County Council officers have provided support to ongoing Transport for Wales proposals to install charge-points of the Strategic Road Network in Ceredigion (as part of its national programme) and at Bow Street Interchange. The Welsh Government has recently published its Electric Vehicle (EV) charging strategy for Wales – see: <https://gov.wales/sites/default/files/consultations/2020-12/electric-vehicle-charging-strategy-consultation-document.pdf>

4.0 Purposes of travel

The combined elements of the public transport network provide a number of travel opportunities for a variety of purposes which include but are not limited to:

- Shopping
- Health
- Socialising
- Leisure and recreation
- Learning
- Tourism
- Commuting
- Work related travel

CCC is conscious that the effects and impacts of COVID-19 are likely to be wide and long standing; this will have a significant impact on the travel choices, desires and requirements in the short, mid and longer term which at this stage are difficult to forecast or predict. It is possible that travel for every day purposes, including all those referenced above, may reduce and the way in which travel is undertaken may change. Future demand may be identified through the North Wales and South West and Mid Wales transport models being developed by Transport for Wales for use by local authorities, developers and other organisations.

With more frequent passenger transport services limited to operating along the strategic road network (with some local feeder services), in deeper rural areas such as Ceredigion, the private car is likely to remain the main form of transport/ travel to access services, opportunities and facilities and to maintain mobility and independence. It may be possible to achieve modal shift away from the private car for shorter journeys but in deeper rural areas, influencing more sustainable travel choices/ providing real alternatives are more challenging and along with commercial journeys and tourism, this is where a shift to ULEVs will have the most impact going forward.

Car sharing and car clubs? Car sharing was led at one time through the regional transport consortium but there appears little progress over the last 6-8 years. It is often referred to in Transport Assessments and Green Travel Plans for new developments – but seemingly little happens. There is potential to develop both, particularly car clubs with potential to tie-in with ULEV - although the Covid-19 pandemic will have had an impact on people's confidence to share a journey with someone outside of their family/ 'bubble'.

5.0 Caru Ceredigion

As part of Caru Ceredigion residents and visitors to Ceredigion would be encouraged to consider:

- the impact of the travel choices they make on the climate emergency - this would include considering whether journeys are necessary and how they are undertaken;
- making the best use of the sustainable travel choices and facilities that are available to them, extending from public transport services to walking and cycling infrastructure, as this supports their ongoing viability as well as business cases for future improvements.

6.0 Moving Forward

Ceredigion County Council has actively engaged and supported the ongoing Transport for Wales (TfW) 'Wales Bus Network Reform and Design' project which seeks to optimise resources and improve travel opportunities across Wales taking into account local dynamics and influencers. This will inform the future design of bus networks in Wales.

CCC is also aware of the WG's aspirational future vision for transport in Wales as set out in the emerging Wales Transport Strategy; CCC will continue to work with the relevant partners, including WG and TfW, to realise and deliver on these aspirations on a regional, as well as local basis, for the benefit of Ceredigion's residents and visitors, as well as its economy and environment.

Transport networks and the travel opportunities afforded, in terms of infrastructure and service provision, will need to be dynamic and flexible to reflect the requirements of a post COVID world and to respond positively to the challenges of the climate emergency in order to be fit for purpose moving forward. With this in mind we are actively engaged with partners who are investigating the potential for use of electric buses on the TrawsCymru network in Ceredigion and the infrastructure that would be required to support and facilitate this. This is seen as the logical place to start in terms of electrifying buses in Ceredigion which in turn can progress to a cascading and roll out process across the network.

An overall reduction in travel, as well as move to more sustainable modes of travel, support the overall principles underpinning effective and efficient travel planning from a financial and environmental perspective, thus positively influencing the climate emergency.

Education

- The Eco-Schools programme is an international initiative that enables sustainable development to be a major part of the life and ethos of schools. The programme involves the entire school community in improving the school environment and encouraging good citizenship; pupils study topics including waste, litter, energy, water, transport, healthy living and global citizenship. All schools in Ceredigion are registered on the Eco Schools programme.
- Ceredigion utilises a 'fabric first' approach to all the projects on the 21st Century Schools Programme. A 'fabric first' approach to building design involves maximising the performance of the components and materials that make up the building fabric itself, before considering the use of mechanical or electrical building services systems; this can help to reduce capital and operational costs, improve energy efficiency and reduce carbon emissions whilst reducing ongoing maintenance costs. Buildings designed and constructed using a fabric first approach aim to minimise the need for energy consumption through methods such as:
 - maximising air-tightness;
 - increased levels of insulation;
 - optimising solar gain through the provision of openings and shading;
 - optimising natural ventilation and
 - using the thermal mass of the building fabric.
- The County Council has utilised available funding to improve or provide new walking and cycling routes to schools and colleges to make journeys safer and more accessible for walking, cycling and scooting. Some schemes have included a reduction in the speed limit (to 20 mph), physical traffic calming and cycle shelters. Where there are no formal pedestrian crossing facilities, the Council deploys School Crossing Patrol staff at locations considered to be 'higher risk' to provide a safer environment for learners to walk to school. The Council's Road Safety Team delivers training and awareness programmes in schools - such as Kerbcraft pedestrian training and National Standards Cycle Training - to provide the necessary skills and build confidence amongst children and younger people to walk, ride and scoot safely to their school, thus discouraging journeys made by the private car.

- Where feasible, new schools will take advantage of the green technologies available to us, and will attempt to maximise the use of ground source, air source and solar technologies appropriate to each individual site. A range of Council service areas including Highways and Environmental Services will be engaged early on to contribute to any proposals to review existing education provision, enlarge existing schools and for any new build.
- Ceredigion are also committed to installing electric vehicle charging points within all of its new schools.

Regeneration

Economy and Regeneration – information to follow

Finance

- Ceredigion County Council is part of the £2.4 billion Dyfed Pension Fund.
- On 23rd Jan 2020 Ceredigion Council agreed to call on the Dyfed Pension Fund to disengage from investment in fossil fuels within two years.
- At its meeting of 11th January 2021 the Dyfed Pension Fund Board agreed to steps that will reduce the carbon footprint of its financial holdings by 16%.

Information and Communications Technology (ICT)

- The Council continues to introduce ICT good practice to actively help reduce carbon emissions, including:
 - Reducing energy consumption at its Data Centres and across its Network through the virtualisation and rationalisation of hardware and the adoption of energy efficient servers and ICT infrastructure;
 - Facilitating a reduction in staff travel through the implementation of agile working practices across the Authority including the use of laptops and online video conference meetings and calls ('Skype for Business' & 'Microsoft Teams');
 - Reducing printing across the Authority by facilitating the adoption of paperless working through better use of technology.
 - Rationalisation of printing, and removal of colour printing for the majority of staff has been undertaken within office buildings.

Civil Contingencies

The Council's Civil Contingency role aims to help mitigate the effects of climate change by working with partner organisations and communities and developing, maintaining and testing contingency plans for various risks, including:

- more extreme weather events causing severe fluvial flooding, such as Storm Callum in 2018;
- raising sea levels causing an increase in coastal flooding and,
- hotter, dryer summers causing water shortages, an increase in 'wild fires' and effects on the health of the population (especially older and more vulnerable citizens).

The Council is a member of the Dyfed-Powys Local Resilience Forum (LRF) whose members include the Emergency Services, Health Bodies, other Local Authorities, Government Agencies and Utility Companies. The Dyfed-Powys LRF members work together to ensure arrangements are in place to help mitigate the effects of any emergencies including those caused by climate change. The role of the Council during emergencies includes providing support for the emergency services, support and care for the local and wider community and co-ordination of the response by organisations other than the emergency services. As time goes on, and the emphasis switches to recovery, the Council takes a leading role in rehabilitating the community and restoring the environment. The LRF produces and

regularly reviews the Dyfed Powys Community Risk Register. (Note: 'UK Climate Change Risk Assessment 2017 Evidence Report – Summary for Wales' summarises the Wales-specific evidence included in the 'UK Climate Change Risk Assessment Evidence Report').

The Council also recognises the effects of climate change, in particular to coastal erosion and flooding in its own corporate risk register.

Cyngor Sir CEREDIGION County Council

REPORT TO: Cabinet

DATE: 15 June 2021

LOCATION: ZOOM

TITLE: Feedback from the Thriving Communities Overview and Scrutiny Committee on the Achieving Net Zero by 2030 Action Plan

PURPOSE OF REPORT: To provide feedback from the Thriving Communities Overview and Scrutiny Committee held on 26 May 2021

The Thriving Communities Overview and Scrutiny Committee considered the Achieving Net Zero 2030 Action Plan at its Committee meeting on 26th May 2021. The document sets out how the Council intend to respond to the climate emergency. It explains why we need this Net Zero Carbon Action Plan and why the 2030 target is so important to tackling climate change. The Action Plan assesses Ceredigion's current operational carbon emissions and outlines the challenges associated with the ambitious 2030 target.

The Action Plan had been created in response to the Council decision on 20 June 2019 where it agreed to:

- Commit to making Ceredigion a net zero carbon Local Authority by 2030
- Develop a clear plan for a route towards being net zero carbon within 12 months
- Call on Welsh and UK Governments to provide the necessary support and resources to enable effective carbon reductions

Further to this, on the 5th March 2020, Ceredigion County Council declared a global climate emergency, committing to meeting the most significant challenge facing our county and our planet.

Several members stated that they agreed in principle with the need to address this issue, however, concerns were raised regarding the cost implications of this plan to achieve the targets outlined; and that a business plan was required.

Following consideration of the report the Committee **agreed to recommend to Cabinet:**

- (i) that a cross party working group be established as part of the current carbon group to push forward the plan;
- (ii) that the Thriving Communities Overview and Scrutiny Committee receive a regular update report every six months; and
- (iii) that Cabinet write to WG on the urgency of providing the reporting methodology.

It is noted that since the scrutiny committee took place WG have published the reporting methodology.

Councillor Marc Davies
Chairman of the Thriving Communities Overview and Scrutiny Committee

