

# CLIMATE ACTION SIR GAR – Addressing the Climate Change & Nature Emergencies:

A mid programme assessment of our route to  
becoming a Net Zero Local Authority by 2030.



# CONTENTS

| Section   |                                                                        | Page      |
|-----------|------------------------------------------------------------------------|-----------|
|           | <b>Foreword</b>                                                        | <b>3</b>  |
| <b>1.</b> | <b>Introduction</b>                                                    | <b>4</b>  |
| 1.1.      | Summary of Progress Against Our Net Zero Plan                          | 5         |
| <b>2.</b> | <b>Background</b>                                                      | <b>6</b>  |
| 2.1.      | Climate Change                                                         | 6         |
| 2.1.1.    | - Global                                                               | 6         |
| 2.1.2.    | - National: Wales                                                      | 7         |
| 2.1.3.    | - Local: Carmarthenshire                                               | 7         |
| 2.2.      | Impacts of Climate Change                                              | 8         |
| 2.2.1.    | - National: UK                                                         | 9         |
| 2.2.2.    | - Wales                                                                | 10        |
| 2.2.3.    | - Local: Carmarthenshire                                               | 10        |
| <b>3.</b> | <b>Policy Ambitions</b>                                                | <b>13</b> |
| 3.1.      | Wales                                                                  | 13        |
| 3.1.1.    | - Climate Adaptation Strategy for Wales 2024                           | 13        |
| 3.1.2.    | - Natural Resources Policy & Nature Recovery Action Plan               | 14        |
| 3.2.      | Southwest Wales Region                                                 | 14        |
| 3.2.1.    | - Southwest Wales Energy Strategy 2022                                 | 14        |
| 3.2.2.    | - Swansea Bay City Deal                                                | 15        |
| 3.3.      | Carmarthenshire                                                        | 15        |
| 3.3.1.    | - The Carmarthenshire We Want                                          | 16        |
| 3.3.2.    | - Carmarthenshire Cabinet's Vision Statement 2022-2027                 | 16        |
| 3.3.3.    | - Carmarthenshire County Council's Corporate Strategy 2022-2027        | 16        |
| 3.3.4.    | - Route to Become a Net Zero Carbon Local Authority by 2030 (2020)     | 16        |
| 3.3.5.    | - Local Area Energy Plan (2024)                                        | 16        |
| 3.3.6.    | - Forward Plan for Environment (Wales) Act 2016                        | 16        |
| 3.3.7.    | - Nature in Carmarthenshire: Our Approach for Local Action 2020-2030   | 17        |
| 3.3.8.    | - Strategy for Grassland Management for Pollinators on CCC Estate 2024 | 17        |
| 3.3.9.    | - Green and Blue Infrastructure Strategy 2024                          | 17        |
| 3.3.10.   | - Tree and Woodland Strategy 2024-2029                                 | 17        |
| 3.3.11.   | - Nutrient Management Strategy 2024                                    | 17        |
| <b>4.</b> | <b>Where are we now?</b>                                               | <b>18</b> |
| 4.1.      | One Council                                                            | 18        |
| 4.1.1.    | - Chief Executive Department                                           | 19        |
| 4.1.2.    | - Communities Department                                               | 19        |
| 4.1.3.    | - Education, Children and Family Services Department                   | 20        |
| 4.1.4.    | - Place Infrastructure and Economic Development Department             | 22        |
| <b>5.</b> | <b>Where do we want to be?</b>                                         | <b>23</b> |
| 5.1.      | Decarbonisation Trajectories                                           | 23        |
| 5.1.1.    | - Low Level Decarbonisation Trajectory                                 | 23        |
| 5.1.2.    | - High Level Decarbonisation Trajectory                                | 24        |
| 5.1.3.    | - Medium Level Decarbonisation Trajectory                              | 24        |
| <b>6</b>  | <b>How are we going to get there?</b>                                  | <b>25</b> |
| 6.1.      | Collaborative working – How we are organised to tackle the challenges  | 26        |
| 6.2.      | Progress Against Actions                                               | 27        |
| 6.3.      | Decarbonisation Scenarios                                              | 27        |
| 6.3.1.    | - Pipeline Projects Scenarios                                          | 28        |

|                   |                                                                            |           |
|-------------------|----------------------------------------------------------------------------|-----------|
| 6.3.2.            | - Building Disposal Decarbonisation Scenario                               | 28        |
| 6.3.3.            | - Fleet Decarbonisation Scenario                                           | 29        |
| 6.4.              | Climate Change and Nature Emergency People & Cultural Change Plan          | 30        |
| 6.5.              | The Cost to Decarbonise                                                    | 30        |
| <b>7</b>          | <b>Conclusion</b>                                                          | <b>31</b> |
| <b>Appendix 1</b> | <b>Carbon Footprint</b>                                                    | <b>33</b> |
| <b>Appendix 2</b> | <b>Cost to Decarbonise</b>                                                 | <b>49</b> |
| <b>Appendix 3</b> | <b>Climate Change and Nature Emergency People and Cultural Change Plan</b> | <b>51</b> |
| <b>Appendix 4</b> | <b>Environment (Wales) Act 2016 Forward Plan Jan 2023 – Dec 2025</b>       | <b>56</b> |
| <b>Appendix 5</b> | <b>Reference List</b>                                                      |           |

## FOREWORD

It is a great honour to be the Cabinet Member for Climate Change, Decarbonisation and Sustainability, and to be tasked with ensuring a sustainable future.

In the face of increasing evidence and dire warnings from scientists around the world, it is becoming increasingly clear that humanity is standing on the brink of a defining moment in its history. We are in the 11th hour of the climate and nature crisis, where the actions we take - or fail to take - will decide the fate of our planet and future generations.

In 2019, Cyngor Sir Gar was one of the first local Authority's in Wales to declare a climate emergency and commit to becoming a Net Zero County Council by 2030 and in 2022, we declared a nature emergency.

We are set with a challenge to rewrite the story of our nation. Together, we must all start making bolder decisions and commit to playing our part as individuals, organisations and communities in addressing these emergencies even with the huge financial and societal pressures we face.

To turn the page on a past that was extractive and exploitative, and to imagine a new chapter, will require us to work differently and to step into a radical new space where we work together across organisations and communities; moving away from doing less bad in better ways and discover the boundaries of what is possible to safeguard our future.

Cymru has incredible potential to drive forward the transition to low carbon living. We have plenty of wind, waves and sun - but we must not allow this wealth to be misused again, with the profits flowing out of Cymru and our communities being left behind. The infrastructure must be fit for the future, sensitive to our landscapes, and shaped by the people who live closest to them. Furthermore, nature recovery must be at the heart of our plans. That means setting clear and ambitious targets and looking at how we use and manage our land.

While we plan for a better future, we must face the current reality. The climate crisis is no longer a distant threat - it is on our doorstep. We will experience more flooding, more dry periods and more stress on food production and health. We must adapt and we must build resilience into every decision — in housing, in infrastructure, and in the way we support our communities. We must build not only for today, but for what is to come.

BUT what a time to be leaders. Let's be in the generation that chose not to make the same old mistakes - but chose to create a new story for Carmarthenshire, based on fairness, resilience and hope.

It worries me that future generations will ask – when you knew so much, why did you choose to do so little? That's why here in Sir Gar we are doing as much as we can.

Imagine the potential if we unite, each with a unique role, moving forward together towards the same common goal.



Cllr. Aled Vaughan Owen

**Cabinet Member for Climate Change, Decarbonisation and Sustainability**

# 1. INTRODUCTION

Carmarthenshire County Council acknowledges the importance of addressing environmental challenges and declared a Climate Emergency in 2019, followed by a Nature Emergency in 2022.

This document outlines our progress on the actions set out in our Net Zero Carbon Plan (Route to Becoming a Net Zero Carbon Local Authority by 2030) and the actions we are taking to address the Nature emergency through our Environment Act Forward Plan. We believe that, while we will continue to meet the separate National reporting requirements, these issues should be considered together, as they are closely interconnected and as such are both captured in the review. The Council introduced its Net Zero Plan in 2019 which detailed its ambition to become a Net Zero Local Authority by 2030 centred on four key areas. The calendar year of 2024 represents the midpoint in that programme of activities warranting a more in-depth examination of the Council's achievement, which is set out in this report.

Whilst the methodology behind our plan consciously adopted a pragmatic approach, focused on operational issues within our control, our commitment to achieving our Net Zero target and promoting decarbonisation more generally is undiminished. We have reflected on the good progress that has been made and, on the need to lead by example, by reframing our approach to capture the wider activity the council is taking to mitigate and adapt to the challenges we face.

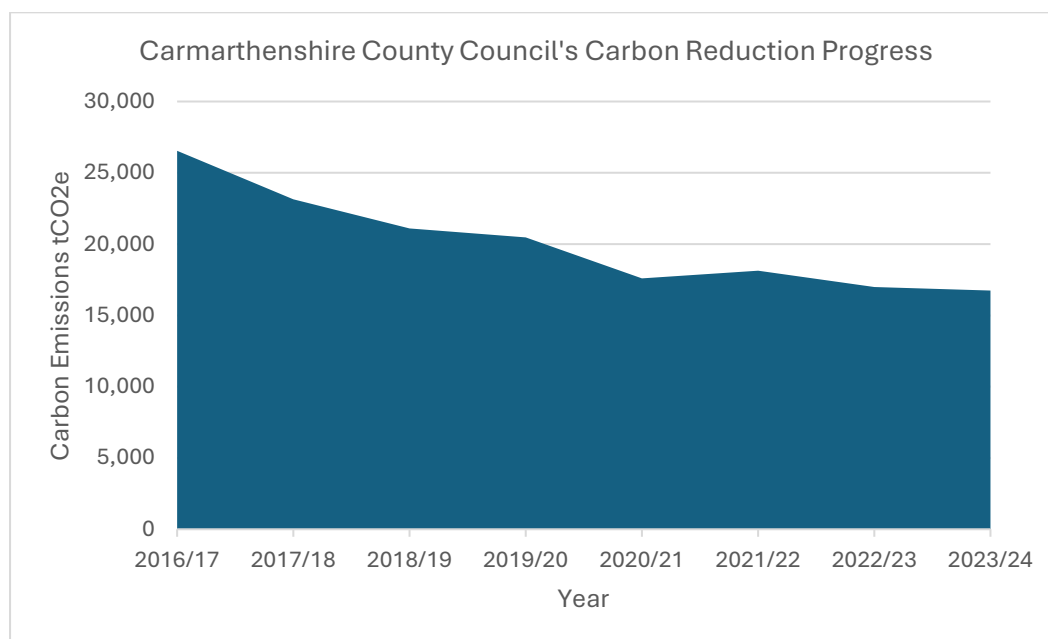
This progress report therefore offers a more in-depth examination of that work that isn't captured within our original net zero plan reporting targets. At this halfway point we are widening our focus and supplementing our Net Zero Plan with a 'People and Cultural Change Plan', Trajectory modelling and reporting on our Environment Act forward plan. We will adopt this new approach for successive years.

This indicates how we work as **One Council** and amplifies the message that a collaborative approach is required to address the challenging impacts of the climate and nature emergency: citizens, communities, businesses and Government, working together. Our response to the health emergency of the COVID-19 pandemic proves that we are extremely capable in overcoming any challenge if we all work together.

The Welsh Government published their first Public Sector Net Zero Reporting Guide in 2021, a year after the Council's plan was published, therefore, resulting in the authority taking a different approach to our reporting methodology. We feel our pragmatic approach is more robust as we have included operational measures that are within our control. Furthermore, the Welsh Government methodology is ever changing with new, often assumption-based measures being added.

## 1.1. SUMMARY OF PROGRESS AGAINST OUR NET ZERO PLAN

Since 2019/20 the authority has been reporting on the four key areas set out in our Net Zero Plan; Non-domestic buildings; Street lighting; Fleet Milage; and Business Mileage. Our baseline year for carbon reporting is 2016/17 and the below table shows the progress we have made since then. As you can see, the graph illustrates a strong performance, having reduced our emissions from 26,542 tCO<sub>2</sub>e to 16,756 tCO<sub>2</sub>e, equating in a 37% reduction compared to our 2016-17 baseline year. Although not directly comparable, this mirrors Wales's emission reduction of 37% since their baseline year; 1990. Our success has largely been achieved through energy efficiency measures being implemented across our estate.



Building upon our Net Zero Plan, the new joined-up approach will help embed decarbonisation, climate adaptation, nature preservation and enhancement. It will also demonstrate that we have progressed from a focus on basic measures, such as recycling and turning off lights, and have moved towards tackling more challenging and embedded carbon intensive infrastructure issues, such as, our heating systems, that are essential to our operation. However, it is still vital that we continue to do the basics as it helps to achieve our goals. The wider approach aims to capture most of the works being done within this agenda across the authority, however, due to the sheer magnitude of what is being done it is unable to capture everything.

It should be noted that our performance data quoted in this document uses UK emission conversion factors issued by the Department for Energy Security and Net Zero. These emission factors are subject to change as energy becomes cleaner, primarily electricity with more renewable energy being included in the energy mix. However, these factors can also increase as data becomes more accurate. Therefore, each year our data is based on the conversion factors for that year. The conversion factors used for the 2023/24 reporting year can be found here: [Greenhouse gas reporting: conversion factors 2024 - GOV.UK](https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024).

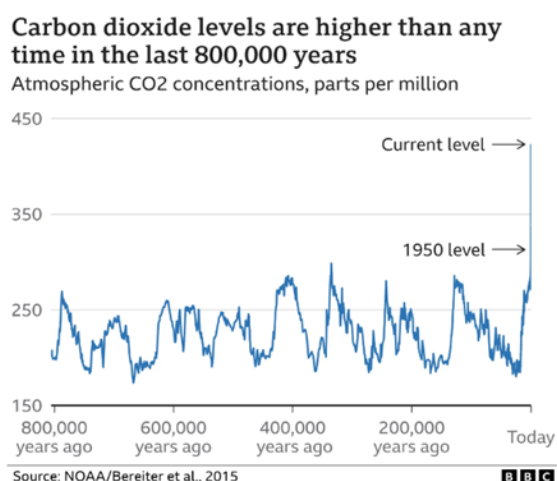
## 2. BACKGROUND

### 2.1. CLIMATE CHANGE

#### 2.1.1. Global

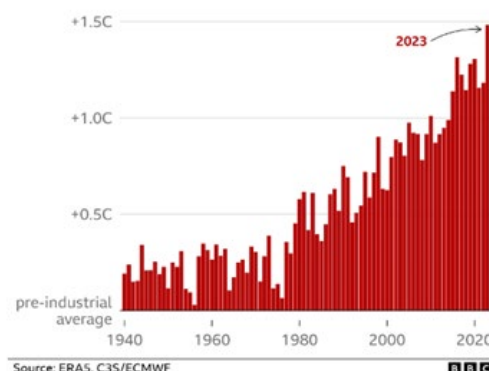
Climate change is the long-term shift in the Earth's average temperature and weather conditions (BBC News, 2024). The Earth is heated by the greenhouse gas effect, which is a natural process and without it, humans wouldn't be able to survive on the planet. Greenhouse gases - consisting of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>), are present in the Earth's atmosphere and trap heat from the sun. Climate change does occur naturally, with evidence of rise and falls in global temperature occurring throughout the Earth's lifetime for example, the ice ages.

However, natural causes cannot explain the particularly rapid warming seen in the last century, according to the United Nation's climate body, the Intergovernmental Panel on Climate



Change (IPCC). This enhanced climate change has been caused by human activity, the IPCC says, mainly from the widespread use of fossil fuels such as, coal, oil and gas, in homes, factories and transport. Since the start of the Industrial Revolution, when humans started burning large amounts of fossil fuels, the amount of CO<sub>2</sub> in the atmosphere has risen by about 50%. This has caused, the average global temperature to be around 1.2°C warmer than during the late 19<sup>th</sup> Century. This heightened global warming is a major issue because of the effects its having and will have on the planet.

**Hottest year on record**  
Global average temperature by year, compared with pre-industrial average (1850-1900)



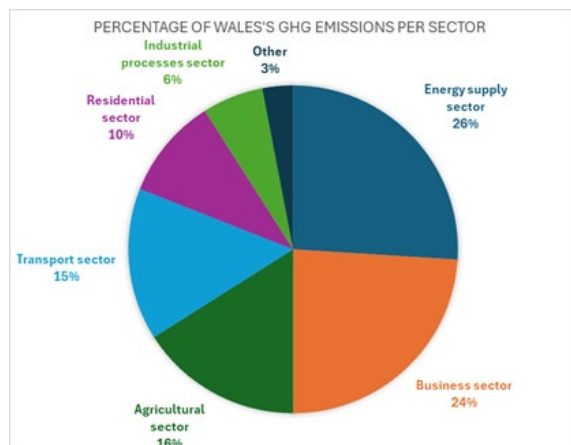
To tackle and reduce the impact of climate change *The Paris Agreement*, a legally binding international treaty, was brought into force on 4<sup>th</sup> November 2016. It was adopted by 196 parties at the UN Climate Change Conference ('COP21') in Paris on 12<sup>th</sup> December 2015. The Paris Agreement is a landmark in the multilateral climate change process because, for the first time, a binding agreement brings nations together to combat climate change and adapt to its effects. It was agreed in the treaty that global warming should be limited to 1.5°C above pre-industrial levels to prevent catastrophic climatic events as the more average temperatures increase, the worse the impacts of climate change become.

However, it has been confirmed that global warming exceeded 1.5°C across the 12-month period between February 2023 and January 2024, with 2023 being declared the warmest year on record. This temperature increase was largely driven by human activity.

At the heart of the Paris Agreement are national pledges to contribute to global mitigation and adaptation goals. The Paris Agreement sets out a mechanism under which each country

produces a nationally determined contribution (NDC), which must be submitted at a maximum of five-year intervals.

### 2.1.2. National: Wales



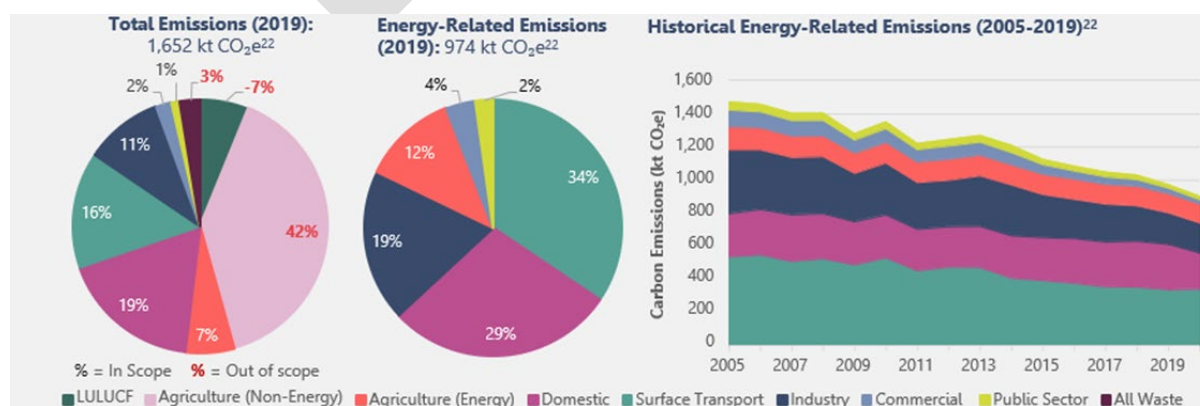
Wales has successfully reduced the amount of greenhouse gas emissions it emits by 37% since 1990 (base year). However, in 2022 Wales emitted 37.7 million tCO<sub>2</sub>e (Climate Change Committee, 2025). The largest source of emissions is the energy supply sector as it produces 26% of Wales's greenhouse gas emissions. The business sector is the second largest emitter, accounting for 24% of Wales's emissions. This is largely due to the use of fossil fuels in industrial production, primarily in steel and iron. Other sectors that are high emitters are, the agricultural sector (16%), the transport sector (15%), the residential sector (10%) and industrial processes sector (6%). All other

sectors contribute less than 5%. It must be noted that this only considers Wales's territorial emissions and does not include emissions that are created outside of Wales for the country's benefit e.g. imported goods and services (Taylor, 2023).

### 2.1.3. Local: Carmarthenshire

UK local authority and regional greenhouse gas emissions national statistics are produced annually by the Department for Business, Energy & Industrial Strategy. The following quotes 2019 emissions data for Carmarthenshire as this was the last year the available data was unaffected by COVID-19; Carmarthenshire's largest source of total emissions in 2019 was from Agriculture at 49%. Emissions from energy-related agriculture (from buildings and machinery) accounted for 7%, with the more significant non-energy agricultural emissions (from livestock, land use and soils) at 42%. The highest energy-related emissions were produced by the domestic sector at 19%. Carmarthenshire's industrial and commercial sectors when combined contribute to 13% of total emissions. 7% of annual emissions are offset through Land Use, Land Use Change and Forestry (LULUCF).

Carmarthenshire's greenhouse gas emissions have reduced by 38% during 2005 - 2019 largely due to the decarbonisation of the national electricity grid.

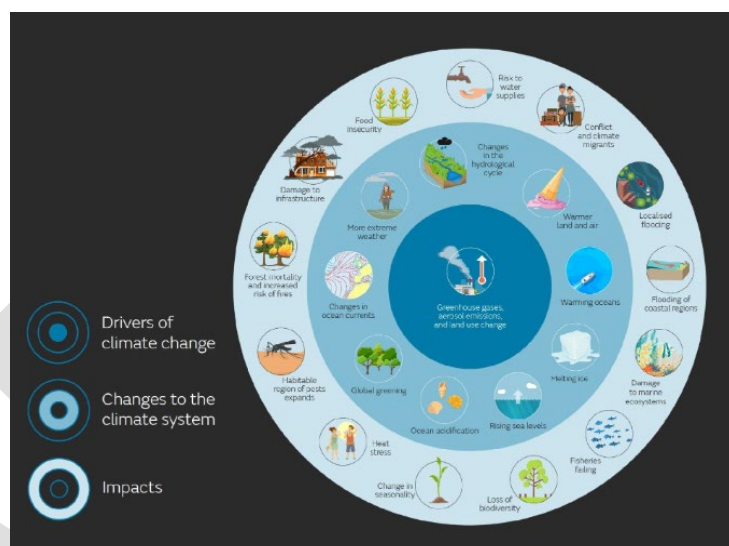


## 2.2. IMPACTS OF CLIMATE CHANGE

Our climate system is finely balanced, and small changes can have significant consequences. Climate change is affecting the Earth's fundamental natural processes as human activity is causing global temperatures to rapidly increase, and the built and natural environments are struggling to adapt to these conditions quickly enough.

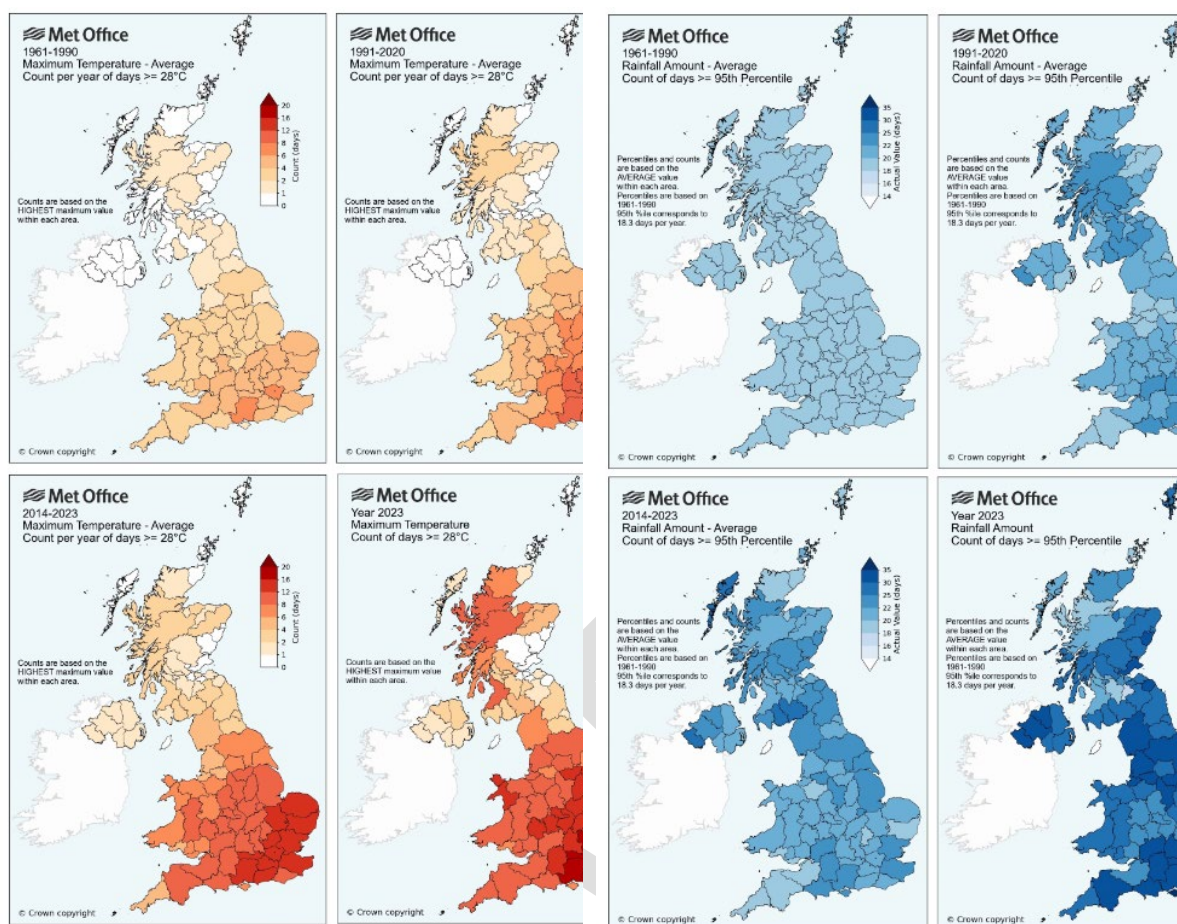
Some of the impacts from these changes to our climate system include:

- Risk to water supplies
- Localised flooding
- Flooding of coastal regions
- Damage to marine ecosystems
- Loss of biodiversity
- Fisheries failing
- Change in seasonality
- Heat stress
- Habitable region of pests and viruses expands
- Forest mortality and increased risk of fires
- Damage to infrastructure
- Food insecurity
- Conflict and climate migrants (Met Office, 2024).



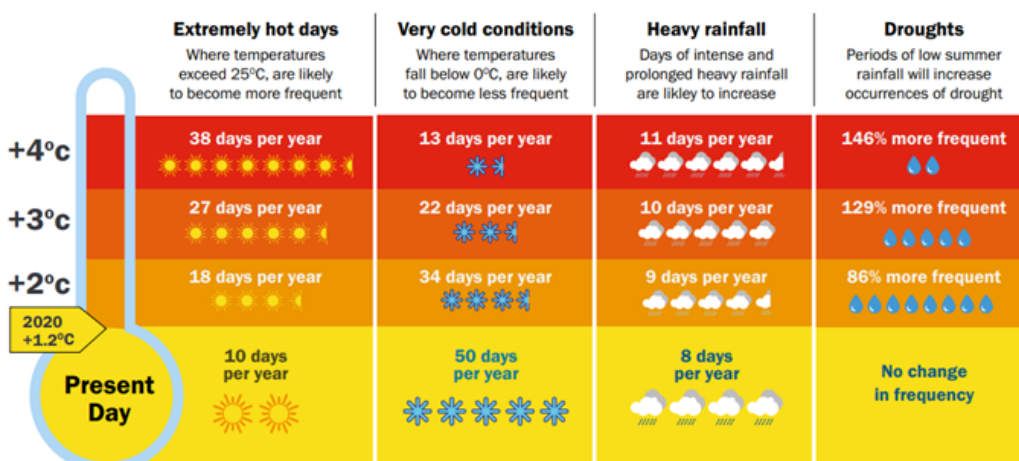
### 2.2.1. National: UK

Climate change is causing a dramatic increase in the frequency of temperature extremes and the number of temperature records that the UK experiences. This means the UK is seeing more frequent periods of hot weather, bringing challenges for infrastructure and health and wellbeing. The observations also suggest an increase in rainfall extremes (Kendon, *et al*, 2023) with the UK rainfall being 11% more than average in 2023. The cause for greater rainfall is due to a warmer atmosphere having a greater capacity to hold moisture (Met Office, 2024). These changes in weather patterns will have devastating effects on our food production and health as extreme heat can cause great stress to our bodies, potentially leading to heart stroke, exhaustion and in severe cases, death. It was estimated by the UK Health Security Agency that during the summer of 2022, extreme temperatures caused almost 3,000 additional deaths in England and Wales. Additionally, warmer weather is opening the door to the UK to viruses that haven't been able to survive here in the past. A prime example is that the West Nile Virus has been found in mosquitos in the UK for the first time in May 2025. This virus that is normally found in parts of Africa, South America and mainland Europe can be harmful to humans and animals (Santos & Roxby, 2025).



Source: [Temperature extremes and records most affected by UK's changing climate - Met Office \(July 2024\)](#)

**Figure 1: Global warming and future high-impact weather in the UK**

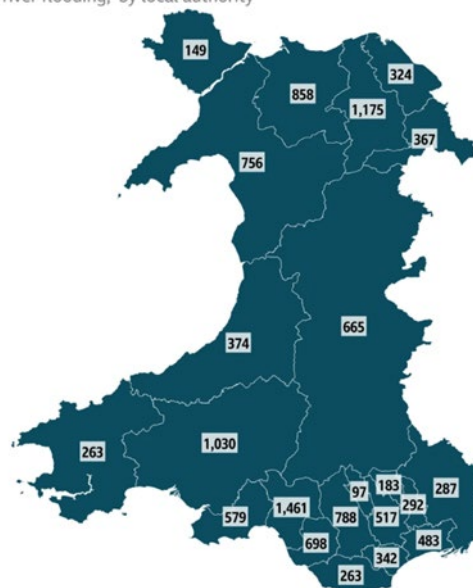


Source: [Climate Adaptation Strategy for Wales](#)

### 2.2.2. Wales

Similarly, Wales has also seen an increase in average temperatures with 2023 being a consecutive warmest year on record (Madge, 2021). Temperature rises will continue with it estimated to increase by 3.9 °C by the 2080s (Netherwood, 2021). Wales is also seeing a rise in rainfall and since 1961 it has increased by more than 10% (Madge, 2021). It is predicted that winter rainfall will further increase by 25% by 2050, whereas summer rainfall could decrease by up to 26% by the 2080s. These changes in weather patterns will have devastating affects on Welsh livelihoods with it being estimated that 245,000 Welsh properties are at risk of flooding (Senedd Research, 2023). This has meant that the Welsh government has had to invest more than £38 million this year alone (2024-25), into flood risk management (James, 2024). The natural environment will also be severely affected due to the change in habitat suitability and breeding patterns, causing a loss of 25% of species currently found in Wales according to the Climate Change Risk Assessment (CCRA). The CCRA also highlights livestock productivity will reduce by 10-15% due to heat stress and changes in pasture growth patterns. The shift in weather patterns will also change crop suitability in different areas. Therefore, climate change is putting more stress on an already volatile industry that is at the heart of Wales.

**Properties at high risk of flooding in Wales**  
Tidal and river flooding, by local authority

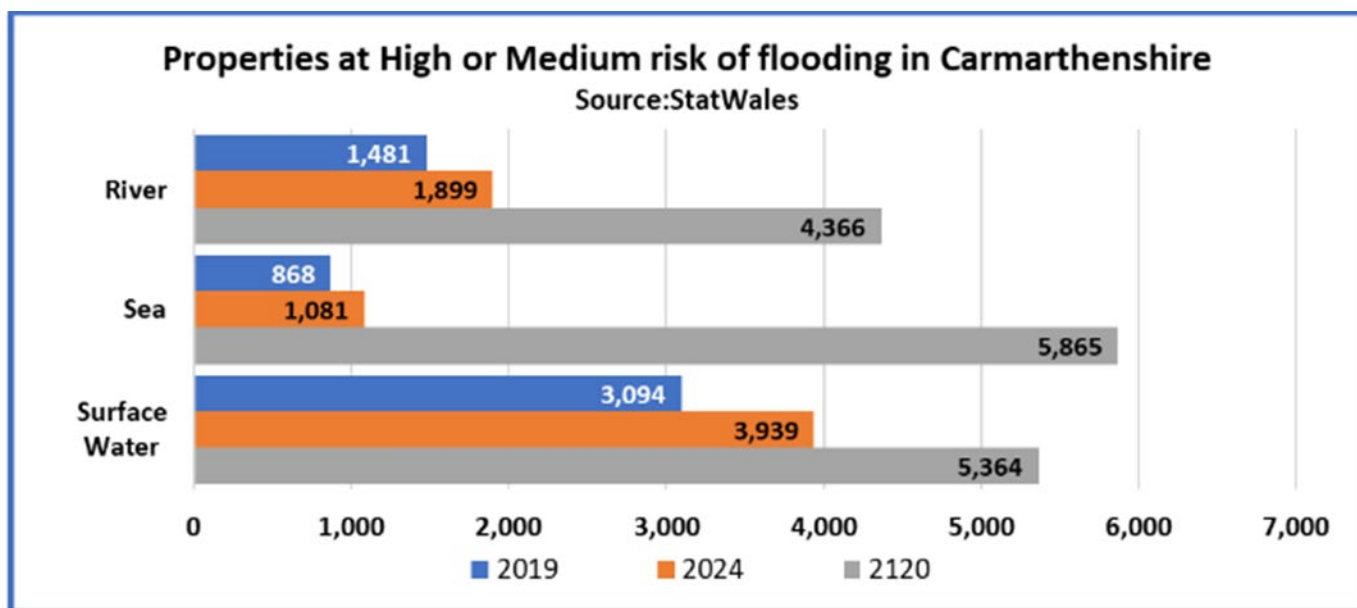


Source: Flood Risk Assessment Wales/Natural Resources Wales, September 2021

1339

### 2.2.3. Local: Carmarthenshire

Carmarthenshire is feeling much of the same pressures from climate change as the rest of Wales. We have felt the impacts of increased rainfall, with more frequent storms. One very rememberable storm was Storm Callum in 2018, which was the biggest flood event recorded since 1987 for both the rivers Towy and Teifi and affected hundreds of businesses and homes across the county, especially in areas like Carmarthen, Newcastle Emlyn, and Llandeilo. This was a vivid reminder that the county is not immune to the effects of climate change and the number of those who will be affected are on the rise. According to StatsWales in 2024 just under 7,000 properties in Carmarthenshire are at risk of flooding, this has increased by 21% since 2019. They have predicted that the number of properties at risk by 2120 will increase to 15,595 (a further 56%).



On the other hand, Carmarthenshire will also feel the pressure of drier and warmer summers, which can have impacts on our health. Based on UK figures it is estimated that in 2023 approximately 2,000 deaths in Wales were heat related (UK Health Security Agency, 2025). Furthermore, these warmer seasons may increase the risks from parasites and pests, that have not historically been endemic to the region but will be able to survive in new areas where the change in climate is able to support their existence.

The climate based changes will also have a devastating affect on the agricultural sector. Not only will climate change have a negative affect on food production, but it will also have a negative impact on Carmarthenshire's economy, given agriculture is one of the largest sectors in the county and employs 7.5% of the workforce. However, it must be noted that although agriculture is one of the biggest emitters in the County it also has the greatest potential to help mitigate and adapt to climate change. Another sector that is likely to feel huge pressure from the change in weather patterns is tourism. With seasonal unpredictability it may lead to the reduction in visitors to Carmarthenshire. Therefore, there is potential for this to have a devastating affect on Carmarthenshire's economy as the sector generated over £683million in 2023 and employed over 6,000 people (Carmarthenshire County Council, 2024).

Not only is climate change heavily impacting the social and economic factors of the county, but it is also having a catastrophic effect on the natural environment. Due to climate change, habitat destruction, pollution, overexploitation of resources and invasive species, we are faced with a nature emergency. There is an alarming decline in wildlife populations, as well as the destruction of vital habitats like woodlands and wetlands, and the weakening of ecosystems that sustain life on Earth, with scientists stating we are heading towards a mass extinction event. Our Natural environment is also subject to disease, viruses and parasites that haven't been found in the UK before due to the change in climate. One recent example is the decline in Blackbirds in the UK. This is due to the bird being infected by the Usutu virus which originated in South Africa (Horton, 2024). The nature emergency is putting even greater pressure on agriculture and human well-being as healthy ecosystems provide essential services like clean air, water, food, and climate regulation. Hence, addressing both climate change and the nature emergency requires urgent action and should be done in conjunction with each other, to secure a liveable planet for all species.

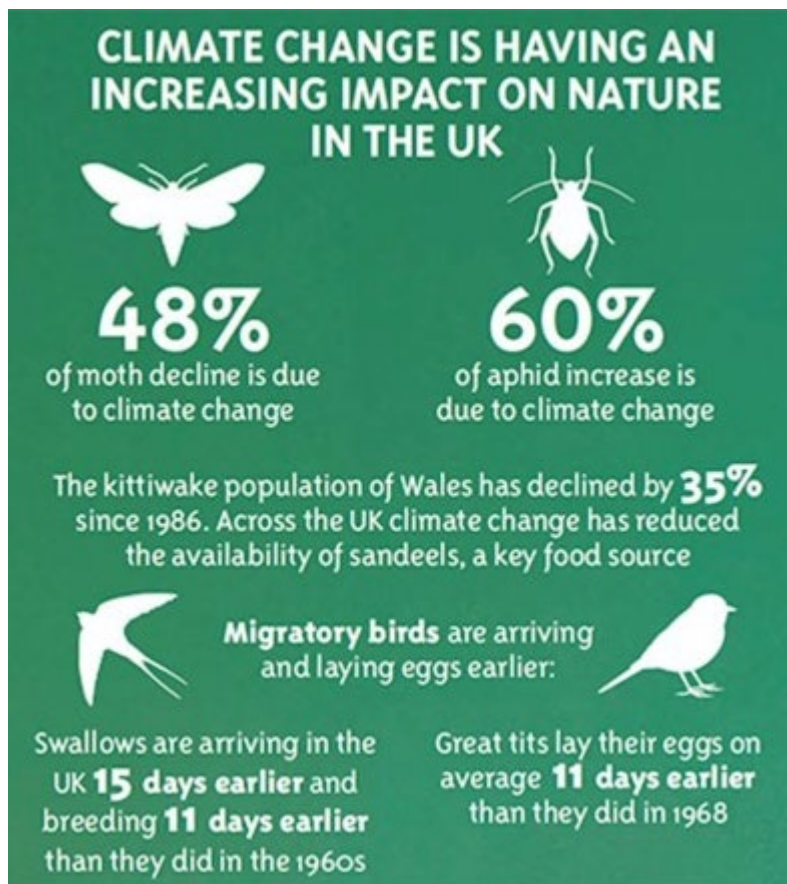


Image source: State of Nature Report - [State-of-Nature-2019-UK-27-](#)

As shown by the infographic, there is a significant increase in the aphid population, which is having a devastating affect on the natural environment. Aphids suck sap from plants which causes significant damage and they also transmit plant viruses and attract other pests like ants. This is increasing the vulnerability of our agricultural production.

Despite technological advancements human life is deeply dependent on healthy and vibrant ecosystems – in short, our lives are dependent on solving the nature emergency. Healthy ecosystems provide essential services that sustain our existence. Nature supplies clean air, fresh water, food, and medicines, while regulating the climate and supporting agriculture through

pollination and nutrient cycling. With agriculture being such a big part of Carmarthenshire's economy and culture, it is vital to protect the county's natural environment. Additionally, Woodlands, oceans, and wetlands act as natural buffers against extreme weather and help absorb carbon emissions. Nature also supports mental well-being and our cultural lives, as humans have a biophilic connection and plants have a calming effect on the brain, nurturing positivity, a greater sense of well-being and relaxation. It's also been proven that plants can increase productivity by 15% (McHugh, 2024.). Without thriving ecosystems, the resources and balance that humanity relies on would collapse, threatening health, livelihoods, and survival, including the survival of ourselves, our children, and grandchildren.

### 3. POLICY AMBTIONS

This chapter will explore the policies that are in place to help overcome the cliamte and nature emergencies.

#### 4.1. WALES

Wales is unique in that it has *The Well-being of Future Generations Act*. The act has 7 well-being goals, which aim to improve the social, economic, environmental and cultural well-being of Wales. The act legally binds public bodies to ensure all development will positively affect our future generations, in which decarbonisation plays a vital role in. The *Environment (Wales) Act 2016* under section 6 states that local authorities have a duty to ensure that consideration for biodiversity is embedded in all business and project development processes through actions that actively pursue opportunities to enhance and maintain the natural environment and promote ecosystem resilience. Following the legal frameworks of both Acts, the Welsh Government developed their climate change strategy and set the legally binding target of being a Net Zero nation by 2050. This is largely set out in *Prosperity for All: A Low Carbon Wales* (2019) - Wales's first statutory Low Carbon Delivery Plan, and *The Net Zero Wales Carbon Budget 2 (2021)* – Wales's second carbon reduction plan, which can be found here: [Net Zero Wales Carbon Budget 2 \(2021 to 2025\) | GOV.WALES](#). You can find all of the Welsh Government's policies that relate to the Environment and Climate Change here: [Environment and climate change | Topic | GOV.WALES](#)



Image source: [The Well-being of Future Generations | GOV.WALES](#)

(2019) - Wales's first statutory Low Carbon Delivery Plan, and *The Net Zero Wales Carbon Budget 2 (2021)* – Wales's second carbon reduction plan, which can be found here: [Net Zero Wales Carbon Budget 2 \(2021 to 2025\) | GOV.WALES](#). You can find all of the Welsh Government's policies that relate to the Environment and Climate Change here: [Environment and climate change | Topic | GOV.WALES](#)

##### 4.1.1. Climate Adaptation Strategy for Wales 2024

The *Climate Adaptation Strategy for Wales 2024* outlines a comprehensive approach to addressing climate change impacts. It emphasises the importance of building resilient communities, protecting ecosystems, and safeguarding the economy. The strategy includes key objectives, such as enhancing flood defences, which can be achieved through built and natural infrastructure; improving early warning systems, to warn of severe weather events, allowing communities to prepare and respond effectively, with a prime example being the warning we received on our mobile phones regarding storm Darragh; and promoting sustainable land use that enhances biodiversity, reduces soil erosion, and increases carbon sequestration.

The full report can be found here: [Climate Adaptation Strategy for Wales 2024 | GOV.WALES](#)

#### 4.1.2. **Natural Resources Policy & Nature Recovery Action Plan**

The *Natural Resources Policy* (NRP) was produced as part of the *Environment (Wales) Act 2016* and sets out how the Welsh Government will use national policies to manage our natural resources (land, sea and air). The policy sets out three national priorities for managing natural resources:



- Delivering nature-based solutions.
- Increasing renewable energy and resource efficiency.
- Taking a place-based approach.

The NRP can be found here: [Natural resources policy | GOV.WALES](https://gov.wales/natural-resources-policy)

The national *Nature Recovery Action Plan* (NRAP) outlines the strategic framework for biodiversity conservation in Wales and aims to reverse biodiversity decline by addressing key objectives, which include safeguarding species and habitats of principal importance, improving their management, and increasing the resilience of the natural environment by

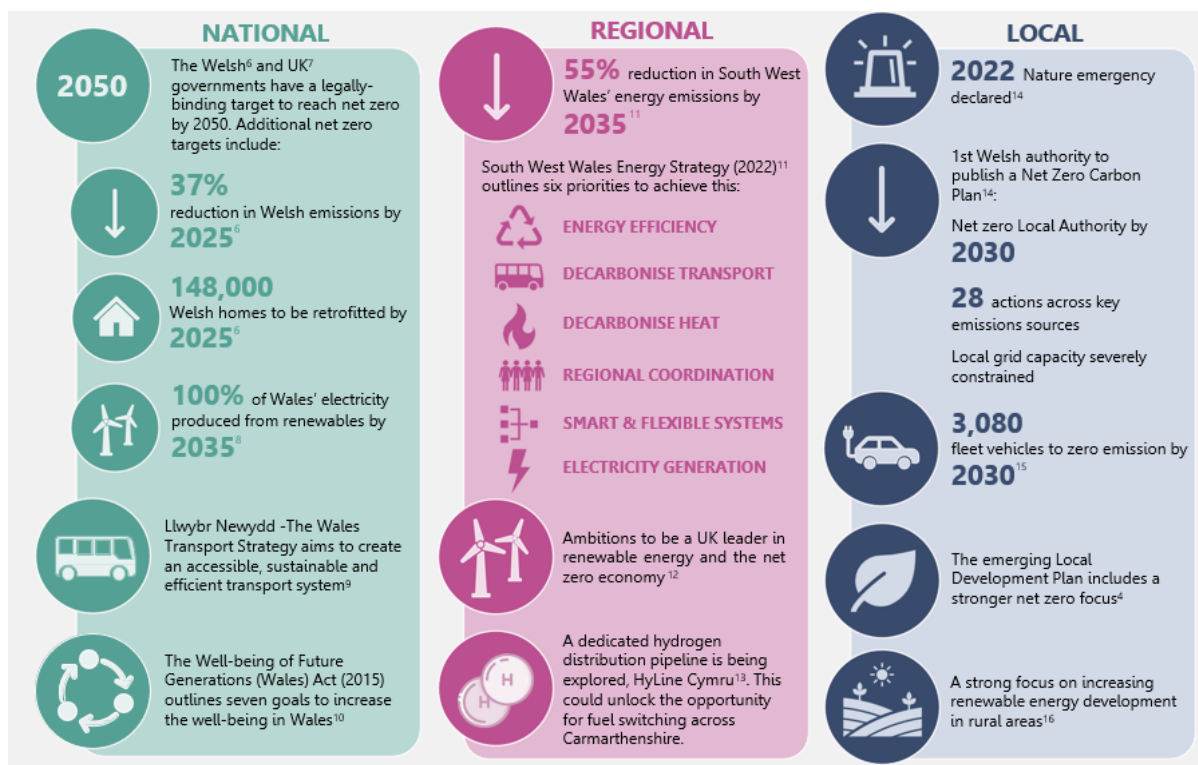
restoring degraded habitats. The plan also focuses on tackling key pressures such as pollution, invasive species, and unsustainable land and marine practices.

The NRAP can be found here: [Nature recovery action plan | GOV.WALES](https://gov.wales/nature-recovery-action-plan)

## 4.2. **SOUTHWEST WALES REGION**

### 4.2.1. **Southwest Wales Energy Strategy 2022**

In 2022, the *Southwest Wales Energy Strategy* was published, and it indicates how the region aims to achieve Net Zero status by 2050, with a 55% reduction in energy system emissions by 2035.



You can find out more here: [South West Wales Energy Strategy](#)

#### 4.2.2. Swansea Bay City Deal

The *Swansea Bay City Deal* is an £1.3 billion investment across the Southwest Wales region, putting the area at the forefront of energy and smart manufacturing innovation and driving it towards a low carbon economy. The City Deal will:

- Create at least 5,000 jobs within the renewables and energy sector.
- Provide approximately 6,000 skills and talent opportunities for the energy and decarbonisation sectors.
- Build a regional centre of excellence within the renewable energy sector.
- Grow two supply chains in the installation, manufacturing and operations of blue and green infrastructure through the Homes as Power Stations Project and Pembroke Dock Marine project.

The Homes as Power Stations Project will reduce the reliance on fossil fuels within households, with the ambition to fit 10,300 homes within the region with renewable technologies, saving 10,417 kWh of energy with a predicted 19,000+ tCO<sub>2</sub>e reduction per year.

### 4.3. CARMARTHENSHIRE

The dedication of Carmarthenshire County Council to enhance and protect the natural environment as well as mitigate and adapt to climate change is evident through the policies and plans it has in place.

#### **4.3.1. The Carmarthenshire We Want: Carmarthenshire Public Service Board Well-Being Plan 2023-28**

The plan sets out how the board will work collaboratively to improve the social, economic, environmental and cultural well-being of the county over the five year period. This is based on detailed evidence and data derived from the Well-being Assessment as well as engagement with local communities and stakeholders.

#### **4.3.2. Carmarthenshire Cabinet's Vision Statement 2022-2027**

The nature and climate emergencies hold a significant role in the Cabinet vision statement recognising the powerful interrelationship between climate change, the loss of biodiversity and human wellbeing. The vision sets out how the Cabinet plan to help tackle the nature and climate emergencies and includes measures to increase biodiversity on all council owned land, increase renewable energy technology on council owned buildings and houses, improvements to public transport and reviewing the fleet strategy to ensure that the most suitable low emission vehicles are used.

#### **4.3.3. Carmarthenshire County Council's Corporate Strategy 2022-2027**

The climate and nature emergencies are embedded in Carmarthenshire County Council's strategic approach. *Well-being Objective 3: Enabling our communities and environment to be healthy, safe and prosperous*, holds two thematic priorities that are directly linked to the climate and nature emergencies. *Decarbonisation and Nature Emergency* stresses the importance of the natural environment as a core component of sustainable development and commits the authority to working towards being Net Zero by 2030 and addressing the issues that are driving the decline in biodiversity and aiding nature recovery.

#### **4.3.4. Carmarthenshire County Council's Route to Becoming a Net Zero Carbon Local Authority by 2030 (2020).**

After declaring a Climate Emergency in 2019, Carmarthenshire County Council was the first local authority in Wales to publish a Net Zero Carbon Plan in 2020. The plan sets out the authority's methodology behind its carbon reporting and how it plans to reach its targets in four key areas; Non-domestic buildings; Street lighting; Fleet Mileage; and Business Mileage.

#### **4.3.5. Carmarthenshire's Local Area Energy Plan (2024)**

At the County level, the Local Area Energy Plan (LAEP) sets out the actions required to 'rapidly transform' and decarbonise the energy system and infrastructure network and informs the development of the Welsh Government's *National Energy Plan*. It contains 13 priority actions that act as a catalyst for future initiatives, with an intention to inform upcoming projects, policies and strategies to help us achieve Net Zero by 2050.

You can find out more here: [Carmarthenshire Local Area Energy Plan 2024](#)

#### **4.3.6. Carmarthenshire County Council's Forward Plan for Environment (Wales) Act 2016**

The plan outlines a comprehensive strategy to enhance biodiversity and environmental sustainability in the county, aligning with the goals of the Well-Being of Future Generations Act, and focusing on sustainable practices, collaboration, and integrated approaches to environmental management. The plan is reviewed and adapted every three years to ensure it remains dynamic and responsive to new challenges and opportunities.

#### **4.3.7. Nature in Carmarthenshire: Our Approach for Local Action 2020-2030**

Carmarthenshire Nature Partnership have developed a nature recovery plan, which outlines a strategy to protect and enhance biodiversity in the region. It highlights local natural assets, such as woodlands, rivers, and coastal habitats, while addressing biodiversity loss through collaborative efforts. The plan emphasises ecological resilience, habitat connectivity, and public involvement. It aligns with the Wales Nature Recovery Action Plan and aims to inspire widespread participation in safeguarding the environment. The plan also outlines factors contributing to the loss of biodiversity, including climate change, modern agricultural practices, development, pollution and invasive non-native species.

#### **4.3.8. Carmarthenshire County Council's Strategy for Grassland Management for Pollinators on the CCC Estate 2024**

Publicly owned amenity grasslands hold substantial potential for being reservoirs of wildflower rich habitat that can contribute to reconnecting and restoring grassland biodiversity. The strategy seeks to address the loss of grassland habitats by adopting new grassland management techniques where feasible across the county. The strategy promotes the most beneficial method of cutting in each area to support biodiversity, resilience of the local environment, help reduce our carbon footprint, the risks of flooding and support our well-being and place-making agenda by improving green infrastructure for the public.

#### **4.3.9. Carmarthenshire County Council's Green and Blue Infrastructure Strategy 2024**

The Green and Blue Infrastructure (GBI) Strategy focuses on creating attractive, distinctive environments that promote community well-being through improved access to nature, while enhancing biodiversity and strengthening climate resilience. Supported by a practical toolkit to empower communities in developing their own GBI assets, the strategy also includes a detailed action plan outlining the local authority's commitment to promoting multifunctional spaces and achieving a shared vision.

#### **4.3.10. Carmarthenshire County Council's Tree and Woodland Strategy 2024-2029**

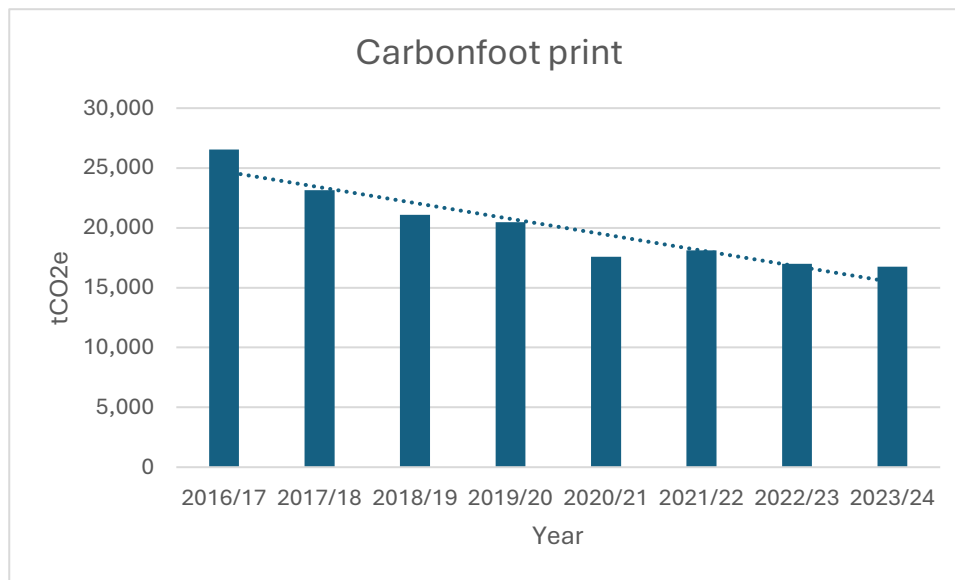
It is vital that we protect and enhance Council owned trees and woodlands as they hold a multitude of benefits. They provide habitats for wildlife and contribute to ecological connectivity and ecosystem resilience; they sequester carbon which helps mitigate against climate change and improves air quality and soundscapes; reduce flooding through increasing absorption and infiltration of surface water; intercept nutrient run-off; and provide a cooling effect for built up areas and shade for livestock. Trees also have a positive impact on mental and physical health and increase work performance, and they can have a positive economic effect by making properties and towns more attractive. The strategy sets an ambitious target to plant 9.5ha of new woodland on our estate each year for the next 25 years, thus increasing our woodland cover from 12% to 17%.

#### **4.3.11. Carmarthenshire County Council's Nutrient Management Strategy 2024**

The Nutrient Management Strategy aims to address nutrient pollution in Carmarthenshire's protected rivers, particularly focusing on phosphate levels in riverine Special Areas of Conservation (SAC). The strategy emphasises a holistic, integrated approach to tackle the impacts that nutrient pollution has on the environment, communities and the economy.

## 5. WHERE ARE WE NOW?

As previously mentioned, we have successfully reduced our carbon emissions by 37% since our baseline year of 2016/17. The progress we have made is illustrated by the graph and table below.



|                          |            |            |            |            |            |            |            |            | 2016/17 VS 2023/24 |          |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------------|----------|
|                          | 2016/17    | 2017/18    | 2018/19    | 2019/20    | 2020/21    | 2021/22    | 2022/23    | 2023/24    | Progress           | % Change |
| Consumption (kWh)        | 72,527,266 | 68,564,902 | 69,059,743 | 70,332,391 | 63,684,340 | 67,694,145 | 63,869,172 | 61,420,560 | 11,106,706         | -15%     |
| Mileage (Miles)          | 9,313,790  | 9,069,875  | 8,829,043  | 9,126,181  | 6,679,056  | 6,773,772  | 7,272,186  | 8,420,699  | 893,091            | -10%     |
| Carbon Emissions (tCO2e) | 26,542     | 23,143     | 21,087     | 20,477     | 17,590     | 18,124     | 16,984     | 16,756     | 9,786              | -37%     |

### 5.1. ONE COUNCIL

This progress has been facilitated by the extensive delivery of projects across the authority. This chapter explores some of those projects as it is impossible to include all of them due to the sheer volume. Although the positive outcomes of the projects may not always be represented in our emission figures, they do emphasise how we are taking a holistic approach towards fighting climate change and enhancing and protecting our natural environment across the authority to ensure Carmarthenshire has a sustainable future.

### 5.1.1. Chief Executive Department

The department is at the heart of our employee wellbeing and development and is home to legal services, corporate policy, marketing and media, democratic services and civil registration. The department has helped the authority transition into an agile and hybrid way of working, which has had a positive impact on our emissions. The department also ensures staff have access to learning to further develop their knowledge and skills around the nature and climate emergencies and how to tackle them.

A prime example of how the department is working towards a sustainable future is the Bremenda Isaf project, where the Corporate Policy and Partnerships team are promoting sustainable food production. This Shared Prosperity Funded project is growing and processing food on a Council owned farm in Llanarthne – Bremenda Isaf, for schools, care homes and local cafés. Not only is this increasing local employment, but it is also reducing carbon emissions through reduced food miles, as well as mitigating against the effects agriculture has on the natural environment by using regenerative farming practices. Carmarthenshire County Council is also a member of the local food partnership – *Bwyd Sir Gâr Food*. The partnership aims to develop a thriving, resilient, sustainable, and inclusive local food system. Furthermore, the team strives to build on Carmarthenshire's status as a sustainable food place and in collaboration with other partners, will develop a community food strategy to encourage the production and supply of locally sourced food in Wales. Additionally, the team will ensure that the Council fully engages with the Carmarthenshire Public Services Board programme to develop opportunities for public sector procurement of locally produced and supplied food, to further reduce food miles, as well as support local food producers to establish, develop, and grow their businesses.



### 5.1.2. Communities Department

This department is at the heart of Carmarthenshire's community delivering services that keep our population safe, healthy and thriving. The department have undergone training in sustainability through Coleg Sir Gar's Green Skills Academy and have replaced condiment sachets with bottled dispensers in all leisure catering facilities. This has prevented approximately 38,000 sauce sachets entering the waste system.

The housing team is a part of this department and through their roof and rendering project they are helping our Council owned homes to decarbonise by installing rooftop solar PV, with approximately 300 homes already having had the technology installed. Additionally, they are installing hybrid heating systems that incorporate air source heat pumps with approximately 100 homes already having them fitted. Furthermore, work is being done to improve the energy efficiency of our housing stock and ensure all our homes hold a minimum of band C energy performance rating (EPC).

The Leisure Team are excelling in driving the sustainability agenda forward and are extremely active in implementing sustainability principles. The team holds the ambition to reduce the energy consumption across the *Actif* facilities by 50%. Although the team have always been very active within this space, efforts have really ramped up since the introduction of the *Leisure Green Champions* in 2023. The Champions are volunteers throughout the different leisure teams and meet monthly to discuss projects and share good practice. Their aim is to encourage all staff to work and think sustainably so it becomes second nature. They have also written the *Sustainability Plan for Leisure Services (July 2024)* which sets out how the Leisure service is going to mitigate climate change and increase biodiversity. They regularly circulate feedback forms to staff to encourage them to make a *green pledge* and to submit their ideas on how to save energy and reduce carbon emissions. Furthermore, they have encouraged carbon reduction and circular economy principles to be included within procurement evaluation criteria's, which have recently been used in the procurement exercises for vending machines within leisure facilities and the new crazy golf facility at Y Caban in Pendine. They included specifications, such as, local suppliers, the use of recycled materials, the reduction of single-use plastic, and equipment that can be recycled.



Green and Blue Infrastructure Strategy and promotes climate adaptation.

Furthermore, Carmarthen Leisure Centre's application for the Welsh Government's Low Carbon Heat Grant has recently been successful and will facilitate the replacement of the gas boilers with Air Source Heat Pumps (ASHP), thus removing the fossil fuel heating at this site.

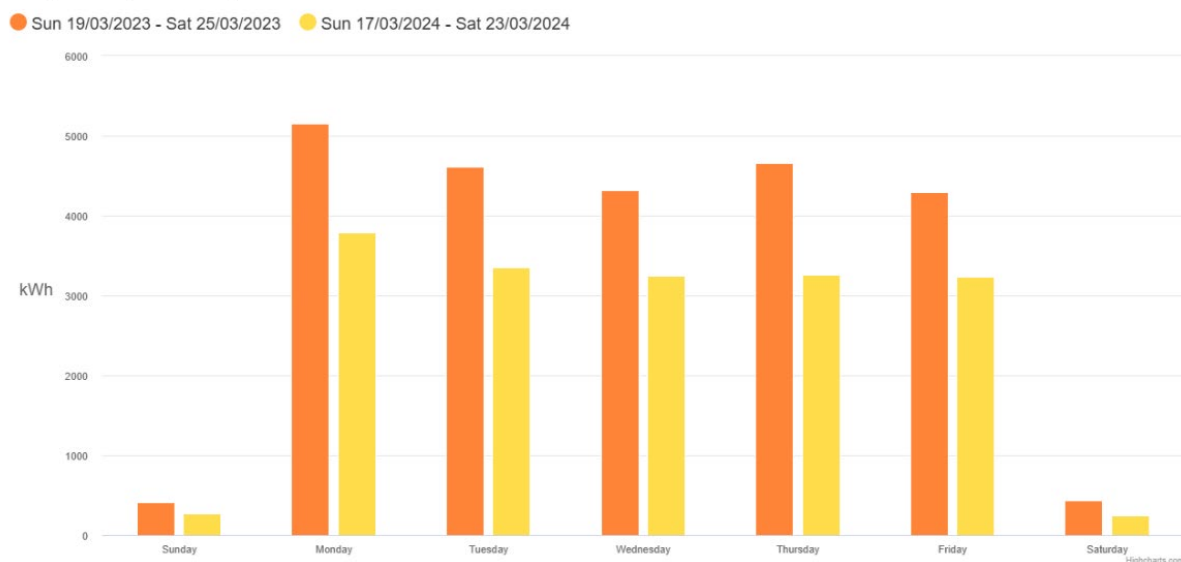
### 5.1.3. Education, Children and Family Services Department

This department's core principle is to ensure every child is valued and valued equally. The division is dedicated to guaranteeing that children and young people are effectively supported to access their education and other required services. Members of the department have had training in the principles of Circular Economy, including some teachers. Additionally, work to make our schools more energy efficient has and will be facilitated by the Re:Fit Cymru framework. Energy conservation is also being promoted in schools through the 'Energy Sparks' programme. The charity provides a unique school-specific energy management tool and education programme. The tool analyses the school's electricity and gas consumption and provides easy to implement energy savings measures. It also engages children through educational activities that look at the energy consumption of the school. Currently, there are 18 schools that are using the programme. Ysgol Coedcae has been using Energy Sparks since 2022 and have successfully reduced their gas consumption by 25%. This was largely achieved by adjusting their heating controls and reducing the heating period, especially over the weekends. The table below shows a comparison of the same week in consecutive years, when the outdoor temperature was similar, indicating the impact that these small changes have

made on their gas consumption. Not only has this had a positive impact on the school's carbon emissions but it would have also saved them approximately £2,000 that week alone.

#### Your school's daily gas use for two recent weeks

A comparison of your school's gas use across two recent weeks.



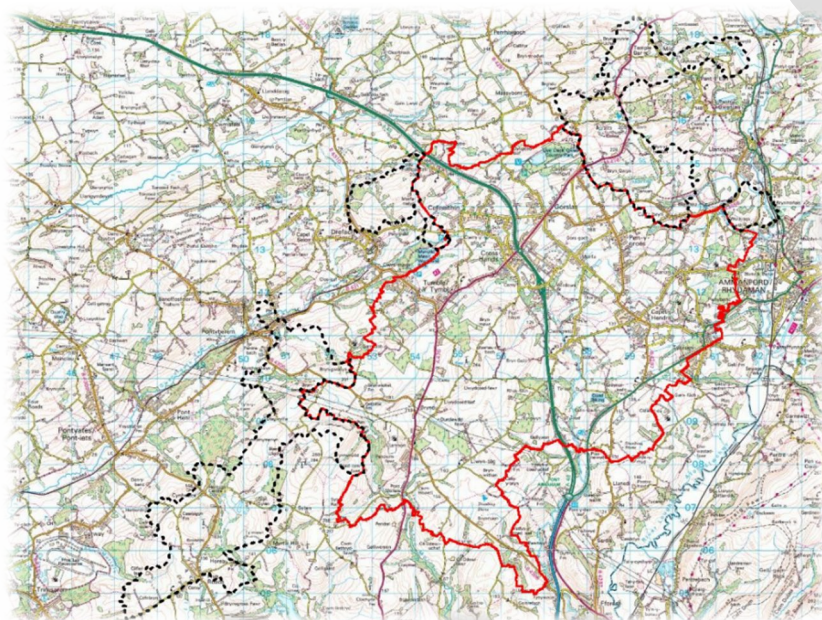
Furthermore, The Climate Action Group has been set up to empower young people across the county to become drivers of transformational change through climate action and sustainable practices by involving them in local governance. The group is made up of elected members of pupils from schools throughout Carmarthenshire, and one method they have used to promote change was a written manifesto with eight climate and nature-based objectives, which they have requested the council to sign and pledge their commitment to climate action. This is integral to ensure young people's voices are heard in decision-making processes related to climate action. The group meets quarterly to discuss climate change issues, implement recommendations from the manifesto, and to connect with local authorities, organisations and businesses.

Biodiversity enhancement is also being implemented within the County's schools. Pollinator friendly spaces are being developed in school grounds, and grassland management is being reviewed with the Rural Conservation Team with the development of grassland management action plans. The School Improvement Team is also providing teacher training events and supporting resources for biodiversity conservation. Grant funding had been provided to develop community gardens in Ysgol Bro Banw, Ysgol Bro Myrddin and Ysgol Penrhos. Additionally, Ysgol Penrhos has also been involved in the *Pharmabees Programme*, where a pollinator friendly highway is being developed by Bouygues, led by Cardiff University, to link the school with the Pentre Arwel Site. Bee hives have also been installed at the school and staff members have been trained in beekeeping. Therefore, this not only promotes biodiversity, but also sustainable practices.

#### 5.1.4. Place Infrastructure and Economic Development Department

The Place, Infrastructure and Economic Development department is at the center of the authority's decarbonisation and nature enhancement journey. It prides itself in delivering decarbonisation, adaptation, waste management and biodiversity conservation and enhancement projects.

Development planning plays a vital role in ensuring the sustainable future of Carmarthenshire and planning policy is being driven by Carmarthenshire's Revised Local Development Plan 2018–2033 (rLDP). The plan supports sustainable development by promoting carbon reduction and renewable energy, enhancing biodiversity with green and blue infrastructure, and fostering sustainable communities through placemaking and improved public and active transport. It emphasises protecting the environment, ensuring developments are adaptable to climate change, and creating attractive, inclusive spaces.



The map shows the Caeau Mynydd Mawr Project area (red line) and proposed new area (black dotted line), which will come in with the new LDP later this year.

The ground-breaking Caeau Mynydd Mawr project, which began in 2013, was developed to offset the impacts of development in the Cross Hands area on the European protected Marsh Fritillary Butterfly. Funded by contributions from developers, the project facilitates the delivery of Carmarthenshire County Council's Local Development Plan by allowing development to proceed unhindered, whilst securing sufficient habitat to support the butterfly. The project works with local landowners, graziers and contractors to appropriately manage the habitat which supports this rare

butterfly. The project currently manages approximately 82 hectares of land and has been a huge success, as the Marsh Fritillary Butterfly continues to thrive.

Sustainability has been at the heart of the Pentre Awel development and contractors, Bouygues, have been awarded the Environmental, Social and Governance (ESG) award from Constructing Excellence in Wales. From the start of the project Bouygues has had clear carbon guidelines and have worked closely with clients, supply chain partners, and employees to reduce their impact on the environment as well as enabling the local community to thrive. During the first phase of the development Bouygues saved 450 tCO<sub>2</sub>e from being emitted by reducing over 90% of direct emissions from fuels on the site, largely achieved using sustainably certified hydrotreated vegetable oil (HVO), and 10% reduction in waste production, and energy and water consumption. Solar power was used for the sites CCTV cameras and the site offices and cabins. Recycled and green materials were also used as part of the construction.

Carmarthenshire County Council has partnered with Nappicycle to deliver an innovative project that tackles two major challenges- diverting waste from landfill and sustainable road maintenance. The pilot project on the B4336 at Pontweli used approximately 80,000 nappies, which were collected by the Council, recycled into fibrous pellets at Nappicycle's facility in Capel Hendre and then incorporated into the Stone Mastic Asphalt (SMA) surfacing material at the GH Harries plant in Ludchurch, Pembrokeshire. This SMA was then used for road surface improvements. This project is a perfect exemplar of a local circular economy in action as well as more sustainable waste and highway management. Using local contractors has also had a greater impact on reducing our carbon footprint by reducing miles travelled, whilst simultaneously having other benefits like boosting the local economy.

As previously highlighted, Carmarthenshire is going to experience more extreme flooding due to climate change, therefore, flood defence plays a vital role within climate adaptation for the county. As Lead Local Flood Authority for Carmarthenshire we undertake a wide range of flood alleviation schemes around the County, as part of our Capital Works Programme. These are targeted to manage flood risk, reduce numbers of properties that flood, and maintain our flood defence assets. Schemes range from small culvert and outfall improvement works, to more complex Natural Flood Management (NFM) projects, as well as schemes to provide Property Flood Resilience (PFR) to individual properties.

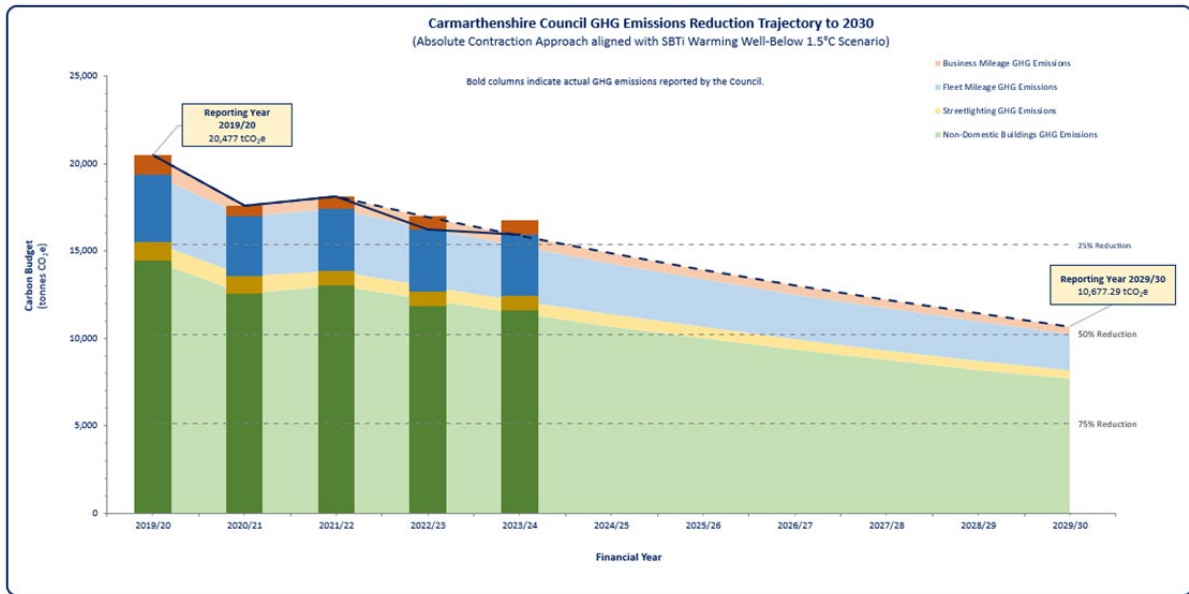
## 6. WHERE DO WE WANT TO BE?

### 6.1. DECARBONISATION TRAJECTORIES

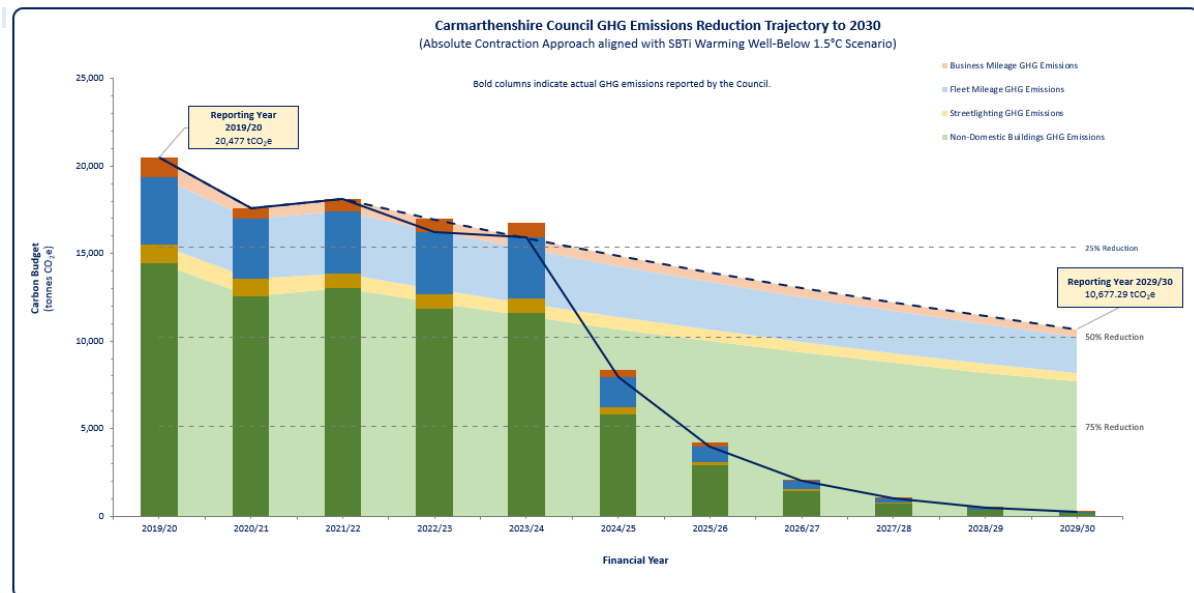
We have recently commissioned the development of a Carbon Trajectory Tool from GEP Environmental. The tool utilises the Science Based Targets initiative (SBTi) and our reporting data to provide a visual representation of our journey to Net Zero. Without a national available tool provided by Welsh Government and being one of the first local authorities to develop such a tool, we offered it out to others to utilise as it holds a multitude of benefits. This promotes collaboration and a joined-up approach with neighbouring authorities. We have utilised the tool to discover the rate of annual emission reduction we require to achieve our Net Zero target.

#### 6.1.1. Low Level Decarbonisation Trajectory

As previously mentioned, we have successfully reduced our carbon emissions by 37% since 2016/17. However, with only 5 years remaining until 2030 our efforts need to be amplified. If we continue to reduce our emissions at our current rate we will reach approximately 50% reduction. This is illustrated in the graph below. Therefore, this would require a great deal of offsetting for us to be able to achieve Net Zero status.



### 6.1.2. High Level Decarbonisation Trajectory

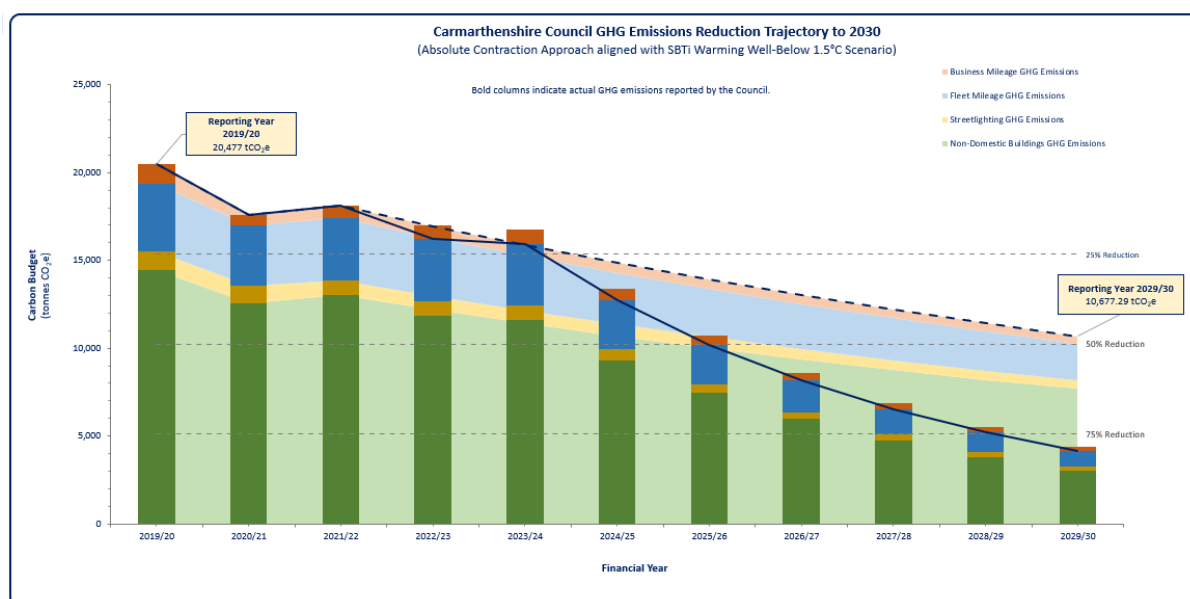


As shown by the above graph, by reducing our carbon emissions by 50% annually going forward, we will see an overall reduction of 99% from our baseline year.

### 6.1.3. Medium Level Decarbonisation Trajectory

As we hold the ambition to firstly reduce our emissions to at least 80%, with the residual being offset, we require at least an annual 20% reduction in our carbon footprint. By following this trajectory, we will achieve more than a 50% reduction by 2026/27 and more than a 75%

reduction in 2030, which is portrayed in the graph below.



This is the trajectory we are working towards as it is the most pragmatic option and the most proportionate in sense of costing and deliverability. The hierarchy within our Net Zero methodology is to reduce our emissions as much as possible, with 80% being the minimum target. It is impossible to eradicate all emissions and we believe having a target of a maximum of 20% residual emissions puts us in the best place possible to achieve Net Zero. Therefore, the second step within our hierarchy means these residual emissions will firstly be counterbalanced through insetting. This will see the investment in renewable energy generation and tree planting across our estate, which is already being widely introduced throughout the authority, with the introduction of works like the Tree and Woodland Strategy. Offsetting sits at the bottom of our hierarchy as it relies on the purchasing of carbon credits and will only be considered if it is impossible to achieve Net Zero through insetting alone. This is because we want to invest in our own county first.

The next chapter will explore how we are going to achieve this.

Reduce

Inset

Offset

## 7. HOW ARE WE GOING TO GET THERE?

As showcased at the start of the report Carmarthenshire County Council and Wales have an array of policies and strategies in place to facilitate the journey to Net Zero and to preserve and enhance the natural environment. Furthermore, this is not a challenge we are facing alone; Work is being done across all sectors in Wales and Carmarthenshire to achieve the Welsh Governments targets and we have formed successful collaborations to enhance this work.

## 7.1. COLLABORATIVE WORKING: HOW ARE WE ORGANISED TO TACKLE THE CHALLENGE

Partnerships and collaboration are paramount to the fight against climate change and efforts to improve the state of nature because it is important to bring together diverse expertise, resources and perspectives to enable a more effective, innovative and comprehensive solution that we are unable to achieve alone.

The climate change and nature emergencies are embedded in Carmarthenshire County Council's corporate strategy and within our decision-making process. The Cross-Party Climate Change and Nature Emergency Advisory Panel gather work stream information and responses to legislative requirements and reports them back to cabinet and full council to help with decision making processes. Additionally, decisions go through a scrutiny committee to assess that all decisions are robust. The authority is also equipped with internal cross departmental officer groups to enable holistic thinking and approaches towards these agendas.

In 2021 four *Corporate Joint Committees (CJC)* were formed across Wales to support greater collaboration between local authorities. The Southwest Wales CJC is made up of representation from the region's four local authorities, the Bannau Brycheiniog National Park Authority and the Pembrokeshire Coast National Park Authority. The focus of the committee is to improve regional planning, co-ordination and delivery of transport, land-use planning, economic development and energy. The CJs hold a regional focus and have the ability to fund projects.

A Local Government *Climate Strategy Panel (CSP)* organised by the *Welsh Local Government Association (WLGA)* has been set up to help support, lead and give strategic overview to decarbonisation work in local government and is made up of Chief Executives from local authorities and other public bodies. By involving chief executives, it ensures that local government voices are heard within Welsh policy through the panel's work with the Welsh Government in developing Wales's next Low Carbon Delivery Plan. Task and finish groups, headed by local authority Chief Executive's, feed into the CSP, enhancing local authority involvement in national policy making as well as facilitating collaborative working.

In addition, the authority is a member of the *Association for Public Service Excellence (APSE)* including APSE Energy. This is a bespoke collaboration of over 100 UK local authorities who are working towards the municipalisation of energy. ASPE Energy was established to support local authorities to make the most of their assets and to progress in the energy and climate agenda, through providing a knowledge sharing platform and extensive resources to help reach our own and national emissions targets.

We also work closely with other local authorities and organisations within our region. We have an excellent relationship with the other three local authorities in Southwest Wales and often work collaboratively when implementing strategies and projects. A prime example is the Regional Energy Strategy and the LAEP work mentioned previously. The regional work is headed by the *Energy Core Group*, which reports to the CJC. Furthermore, the *Swansea Bay City Deal* further promotes this regional working as it's led by the regions four local authorities in conjunction with the local health boards, universities, businesses and private sector.

Additionally, public bodies are also brought together through the Public Service Board, which were established under The *Well-being of Future Generations (Wales) Act 2015*. The board brings together a collection of public bodies to collectively improve the social, economic, environmental and cultural well-being of the county and Carmarthenshire County Council is a stator member.

Furthermore, we are proud members of the Carmarthenshire Nature Partnership which is made up of a variety of organisations including, government and non-government wildlife bodies, wildlife charities and voluntary groups, that are all working together to enhance and conserve Carmarthenshire's biodiversity.

To achieve the phosphate targets set by Natural Resource Wales a *Nutrient Management Board* (NMB), which we sit on, has been established for the River Tywi. We are also apart of many groups to manage the nutrient levels of the county, for example, the *Technical Advisory Group: Agricultural Working Group*. The aim of this group is to reduce nutrient flux from agricultural practices and rural land use to protect riverine SAC catchments.

Moreover, as previously mentioned the Leisure department is proud to have a team of *Green Champions*. This is a group of individuals who are passionate about climate action and sustainability and have volunteered to be pioneers within the workplace.

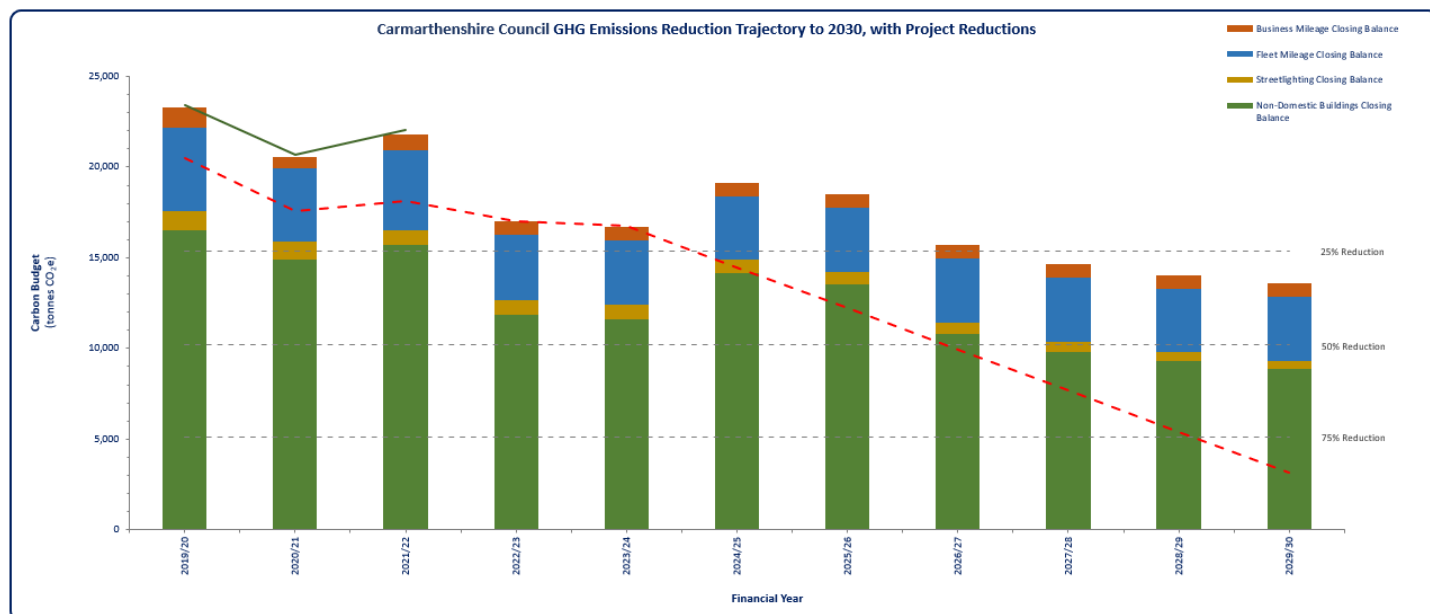
## **7.2. PROGRESS AGAINST ACTIONS**

We have been making good progress against the 16 actions set out in our Net Zero Carbon plan, with 10 of them having been completed and closed. A full list and detail of progress on these actions can be found in appendix 1. However, the authority is far more active in this field than the actions portray due to the ongoing development of the Net Zero plan, which has facilitated the inclusion of decarbonisation and the nature emergency as one of the thematic priorities within the authority's well-being objectives. Moreover, work towards mitigating the climate and nature emergency and incorporating climate adaptation is being taken beyond the Net Zero Plan through the implementation of actions by our Performance Indicator Management System (PIMS). Progress against these actions are monitored and scrutinised quarterly and they also inform the corporate business plan, which is monitored annually. With the evolving nature of the plan, we will continue to track progress against the remaining 6 Net Zero Carbon actions, but new interventions and initiatives will be monitored through the PIMS process. All PIMS actions listed within this report have been taken from the Carmarthenshire County Council's 25-26 business delivery plan, therefore, all actions hold the target date of 31<sup>st</sup> March 2026 for completion.

## **7.3. DECARBONISATION SCENARIOS**

Utilising the carbon trajectory tool we have predicted the impact that different projects will have on our decarbonisation pathway. This provides us the opportunity to develop a visual representation of the impact that each project will have. Therefore, the carbon trajectory tool is highly beneficial within the decision making process. The tool also helps us discover where more work and investment is needed.

### 7.3.1. Pipeline Projects Scenario



Illustrated by the graph above is our decarbonisation trajectory based on projects we currently have in the pipeline. It must be noted that these may produce greater or less savings as they are currently predictions. The savings have also only been inserted for the year of installation for the creation of the graph, however, savings will be made annually by the projects. Although these projects will have a positive impact on our emissions, it signifies that we require far greater investment into decarbonisation projects to achieve our ambition.

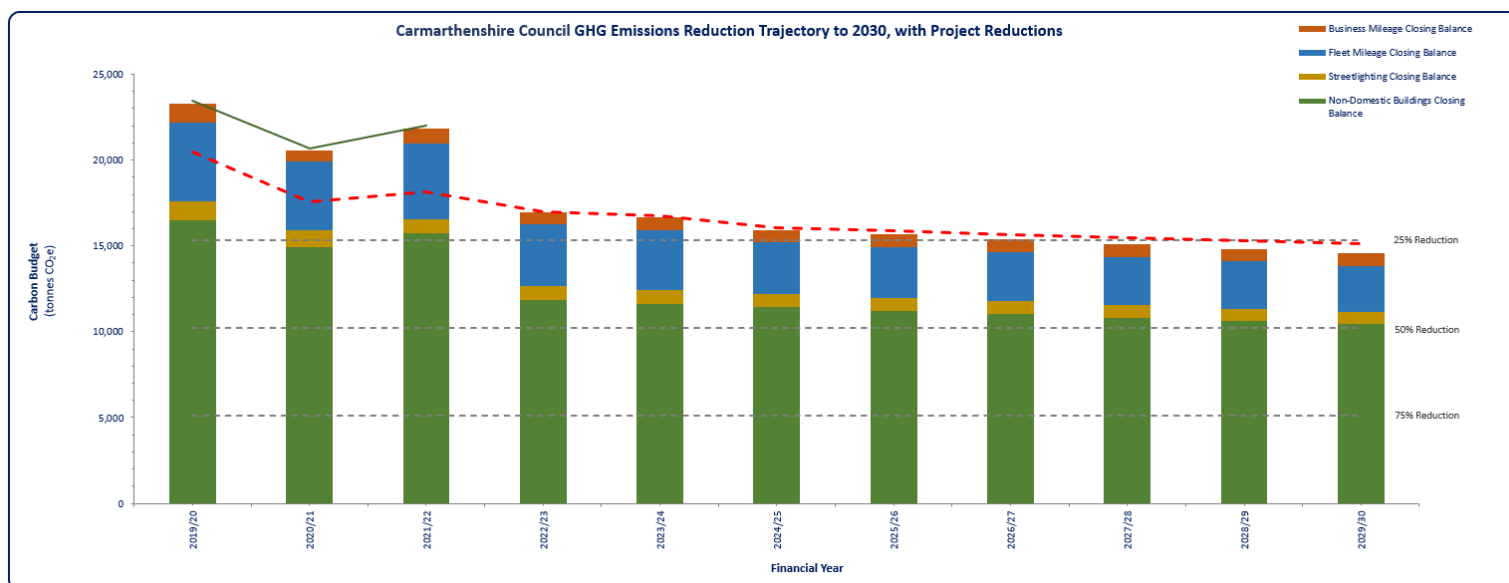
### 7.3.2. Building Disposal Decarbonisation Scenario

Our building portfolio is always subject to change due to the disposal, purchasing and construction of buildings, and plays a considerable role in our carbon footprint. As captured by our reporting (see appendix 1), non-domestic buildings equate for the majority of our emissions. Building disposal has a positive impact on our carbon emissions, and with this in mind, we have considered the future impact this will have. The following scenario, depicted in the graph below, is based on the high-level building disposal that is being considered by 2030. It must be noted that this is merely an exercise and is not definitive. This trajectory is based on our current non-domestic buildings portfolio and 11 buildings that are being considered for disposal.

This trajectory also presumes that we maintain our current reduction rate and assumes that all the buildings will be sold in 2027/28. As you can see from the graph below, by disposing of only 11 buildings it has a considerable positive impact on our emissions. Based on the buildings energy usage in 23/24 it would save 1,621,020.25 kWh and 332.1 tCO<sub>2</sub>e.

This also emphasises the need to consider the environmental impact as well as the biodiversity potential of the buildings grounds when acquiring new buildings into

our estate. This is essential if we want to achieve our ambitions. A prime example of how selling a building can have a huge impact on our carbon emissions is the removal of Parc Dewi Sant



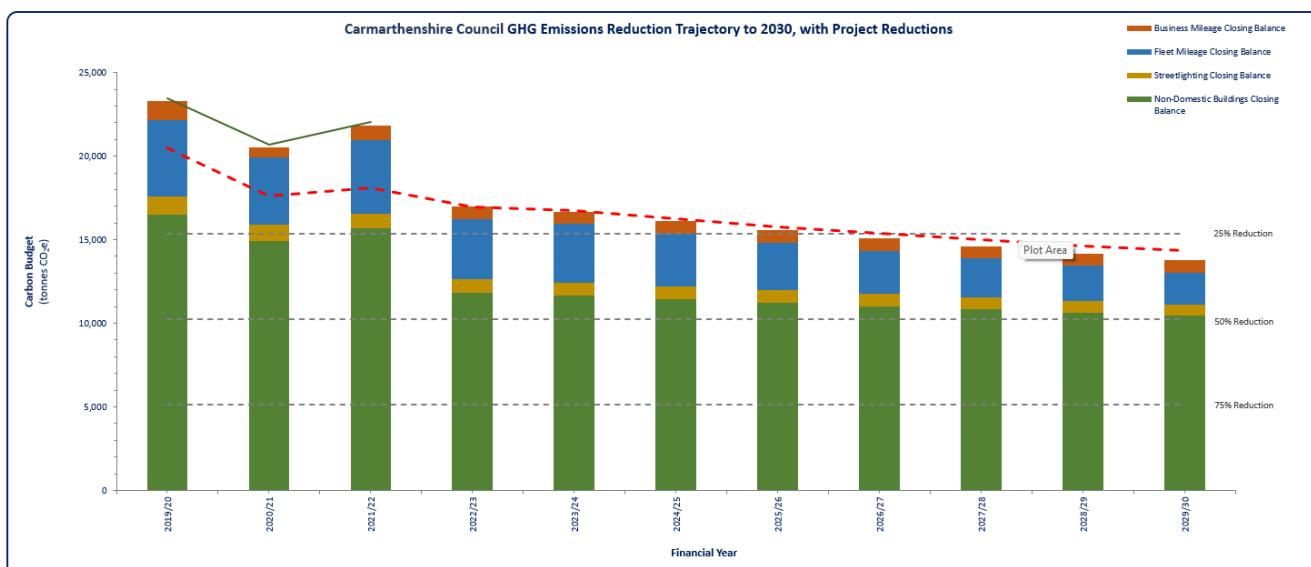
from our estate. Based on 2023/24 energy consumption, the selling of the site will reduce our non-domestic building emissions by 23%.

By law all public buildings that have a total useful floor area of over 250m<sup>2</sup> must acquire and display a Display Energy Certificate (DEC). A DEC shows the energy performance rating of a building based on actual energy consumption across a 12-month period. The operational rating is a numerical indicator of the annual CO<sub>2</sub> emissions from the building and this rating is shown on a scale from A to G, with A being the lowest CO<sub>2</sub> emissions and G being the highest. The DEC rating is a useful indicator that should be considered in the decision-making process of disposing and acquiring buildings.

### 7.3.3. Fleet Decarbonisation Scenario

Of the four key areas we report on, our fleet is our second highest emitter, therefore, making this a priority area. We have considered what position we will be in by 2030 if we were to convert 10% of our fleet to electric vehicles (EVs) every year. By using electric vehicles instead of internal combustion engines (petrol and diesel) it eliminates all emissions when that vehicle is being driven. However, as there are emissions related to the production of the electricity used power the cars there are still emissions associated with these cars, but they are far less. Based on 23/24 emission patterns and if we were to do nothing else to decarbonise apart from converting 10% of our fleet to EVs each year, it would mean that by 2030 we will be emitting 13,025.83 tCO<sub>2</sub>e; this is a 22% reduction from our 23/24 total. This is shown in the graph below. The decarbonisation of our fleet is vital to reach our Net Zero Target, but it needs to be done in conjunction with other decarbonisation projects across the whole authority.

As illustrated by these scenarios, an holistic approach is crucial to achieving our ambition .



## 7.4. CLIMATE CHANGE AND NATURE EMERGENCY PEOPLE AND CULTURAL CHANGE PLAN

To achieve the ambitious goals the Council has set for mitigating and adapting to climate change, as well as preserving and enhancing the natural environment, requires support and dedication from everyone. Therefore, a people and cultural change plan is a vital tool for engaging others by transmitting information about the climate change and nature emergency. It also ensures our messages are structured, clear, consistent and aligned with our organisational aspirations. The plan is a critical component for achieving our goals, building relationships and maintaining a positive and credible presence in our community. The importance of the plan is magnified by the urgency of the matter as action is required now, by everyone, as it effects all aspects of our lives. It was also highlighted in the latest public survey that only 19% of respondents agreed that the climate emergency is being addressed locally and 37% disagreed that their local environment is pleasant and well looked after. This, more than anything, shows that greater collaboration is needed across our communities.

The plan can be found in appendix 3.

## 7.5. THE COST TO DECARBONISE

A huge amount of investment in energy efficiency measures and low emissions technologies is required to reach an 80% reduction in our carbon emissions. Once we have reached our emissions target, further investment may be required for insetting and offsetting activities to ensure we reach Net Zero status. Appendix 2 contains a table that predicts how much this is going to cost.

However, it must be noted that this is merely an estimate and is dependent on a lot of different considerations. It also doesn't necessarily mean that it will require additional funds,

as large portions of the sum will be from redirected money from fossil fuel technology. For example, when a fossil fuel powered boiler needs replacing it will not be replaced like-for-like, but with a low emissions equivalent, like an air source heat pump. We aim to deliver decarbonisation projects collaboratively in conjunction with other interested parties. For example, we work very closely with our neighbouring authorities, and we look to deliver projects jointly and through regional forums, such as the Swansea Bay City Deal, which are already delivering projects across the region. This will help alleviate the cost of decarbonisation. We are extremely committed to our Net Zero ambition but our deliverability is highly dependent on funding from third parties such as the Welsh Government which we are actively seeking and utilising.

## 7. CONCLUSION

In conclusion, at this midway point of our Net Zero Carbon plan we can be proud that we have reduced our carbon emissions by 37% since our baseline year, mirroring the success of the nation. As an authority we have ensured that we have effective strategies and plans in place, that align with the Welsh Government's targets and ambitions to make Carmarthenshire and the Council more sustainable and nature rich. This not only improves the well-being of the current population, but future generations too. We are also proud of the collaborations we have made with neighbouring local authorities and local stakeholders to further drive the work we are doing and ensuring this is a reality. We have set out in this report examples of how across the Council we are working towards our targets and we have reviewed, through our trajectory work, the pathway we need to take to become a Net Zero Local Authority by 2030. To achieve our ambition, we recognise that more investment and interventions are needed and we must remember that the cost of doing nothing will far exceed the cost to decarbonise through the impact climate change and nature depletion will have on our county.

Although we are making good progress and working our hardest to achieve our ambition and goals, we are faced with a multitude of constraints. It is common knowledge that the authority's budget is being tightened each year due to government cuts, therefore we are often reliant on grant funding to complete projects. As you can imagine each grant is highly competitive with the whole of the public sector facing austerity. For renewable energy projects the state of the National Grid holds the biggest constraint. Unfortunately, the National Grid requires a substantial upgrade to accommodate the input and distribution of new renewable energy assets. When installing a new system in areas where the National Grid has no capacity there is an option to pay for its upgrade, however, these costs are often extremely high. Conversely, as previously mentioned, if we do not execute a high level of investment into decarbonisation and nature preservation the cost of doing nothing is going to be far greater to our communities. Cultural behaviours and a lack of understanding around climate change and the nature emergency also hinder our progress. However, this report along with the Climate Change and Nature Emergency People and Cultural Change Plan endeavour to change this. The age of the buildings within our estate also poses a major challenge. This is because older buildings tend to be more energy inefficient as they weren't built with energy conservation in mind. Our oldest buildings date back to the 1800s and we predict that a large

proportion of our buildings are currently wasting energy. Older buildings are also usually home to older systems that work inefficiently and would need complete removal and replacing. Furthermore, there are restrictions on how you can alter listed buildings. Therefore, any energy efficiency or energy generation projects we do must incorporate measures that are sympathetic to a buildings character and designation. It is also vital that we ensure the protection of natural environments within our work efforts. However, we will endeavour to achieve our ambition, and collectively, **as one council**, we can overcome any barriers and achieve anything.

DRAFT

# APPENDIX 1

## CARBON FOOTPRINT

The table below goes into detail on our recorded emissions for the areas within our Net Zero Carbon plan.

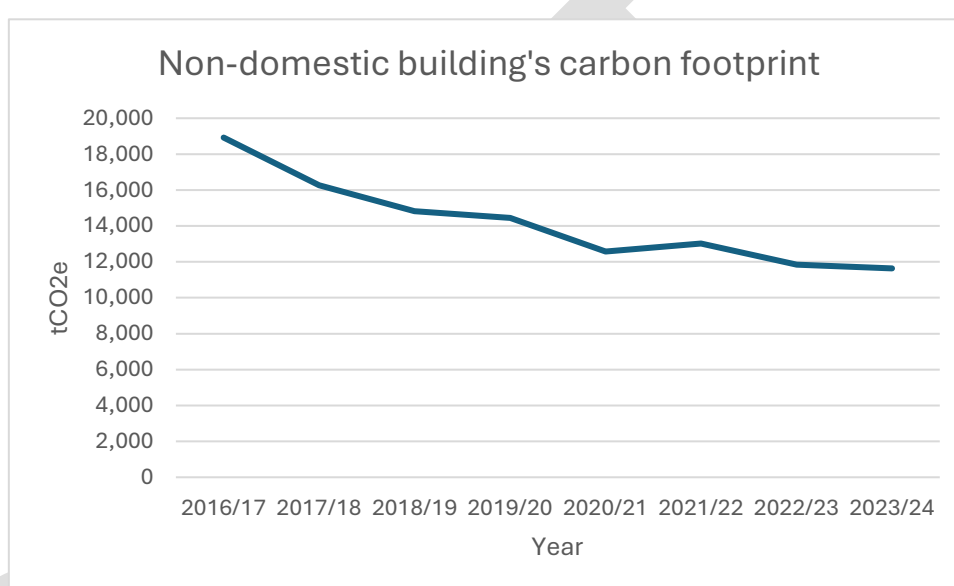
|                                       | 2016/17    | 2017/18    | 2018/19    | 2019/20    | 2020/21    | 2021/22    | 2022/23    | 2023/24    | % Change since baseline |
|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------------------|
| <b>Non-Domestic Buildings</b>         |            |            |            |            |            |            |            |            |                         |
| Consumption (kWh)                     | 66,808,735 | 63,690,923 | 64,857,362 | 66,407,242 | 59,808,497 | 64,095,021 | 60,274,987 | 57,837,072 | -13%                    |
| Carbon Emissions (tCO <sub>2</sub> e) | 18,923     | 16,258     | 14,822     | 14,443     | 12,581     | 13,026     | 11,846     | 11,649     | -38%                    |
| <b>Street Lighting</b>                |            |            |            |            |            |            |            |            |                         |
| Consumption (kWh)                     | 5,718,531  | 4,873,979  | 4,202,381  | 3,925,149  | 3,875,843  | 3,599,124  | 3,594,185  | 3,521,319  | -38%                    |
| Carbon Emissions (tCO <sub>2</sub> e) | 2,569      | 1,874      | 1,291      | 1,088      | 981        | 832        | 809        | 792        | -69%                    |
| <b>Fleet Mileage</b>                  |            |            |            |            |            |            |            |            |                         |
| Mileage (Miles)                       | 5,127,150  | 5,121,289  | 4,982,428  | 5,154,668  | 4,427,070  | 4,262,681  | 4,496,754  | 5,466,196  | 7%                      |
| Diesel Used (litres)                  | 1,416,276  |            |            | 1,419,336  | 1,267,437  | 1,320,551  | 1,327,545  | 1,313,071  | -7%                     |
| Electricity (kWh)                     | N/A        | N/A        | N/A        | N/A        | N/A        | N/A        | N/A        | 62,169     | N/A                     |
| Carbon Emissions (tCO <sub>2</sub> e) | 3,790      | 3,852      | 3,856      | 3,814      | 3,407      | 3,573      | 3,584      | 3,507      | -7%                     |
| <b>Business Mileage</b>               |            |            |            |            |            |            |            |            |                         |
| Mileage (Miles)                       | 4,186,640  | 3,948,586  | 3,846,615  | 3,971,513  | 2,251,986  | 2,511,091  | 2,775,432  | 2,954,503  | -29%                    |
| Carbon Emissions (tCO <sub>2</sub> e) | 1,260      | 1,159      | 1,118      | 1,132      | 621        | 693        | 745        | 808        | -36%                    |
| <b>TOTAL</b>                          |            |            |            |            |            |            |            |            |                         |
| Consumption (kWh)                     | 72,527,266 | 68,564,902 | 69,059,743 | 70,332,391 | 63,684,340 | 67,694,145 | 63,869,172 | 61,420,560 | -15%                    |
| Mileage (miles)                       | 9,313,790  | 9,069,875  | 8,829,043  | 9,126,181  | 6,679,056  | 6,773,772  | 7,272,186  | 8,420,699  | -10%                    |
| Carbon Footprint (tCO <sub>2</sub> e) | 26,542     | 23,143     | 21,087     | 20,477     | 17,590     | 18,124     | 16,984     | 16,756     | -37%                    |

\*Note: Our performance data quoted in this document uses UK emission conversion factors issued by the Department for Energy Security and Net Zero. These emission factors are subject to change as fuel becomes cleaner, primarily electricity with more renewable energy being included in the energy mix. However, these factors can also increase as data becomes more accurate. Therefore, each year our data is based on the conversion factors for that year. The conversion factors used for the 2023/24 reporting year can be found here: [Greenhouse gas reporting: conversion factors 2024 - GOV.UK](#).

As mentioned in the report we have successfully reduced our carbon emissions by 37% since our baseline year. Having made progress in reducing emissions across the board, the greatest reductions have come from our street lighting emissions.

### **Carbon Footprint: Non-domestic Buildings**

Since our baseline year we have successfully reduced our non-domestic building's emissions by 38% as show in the graph below. This has largely been due to the energy efficiency measures that have been implemented across our estate. However, it must be noted that this is also the result of the grid electricity becoming cleaner through the increase of renewable energy in the electricity mix. It should also be noted that this is the first year that we have removed the electricity used to power our electric vehicles from our building consumptiona and reported on it separately.



| Non-domestic buildings   |            |            |            |            |            |            |            |            | 2022/23 Vs 2023/24 |          |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------------|----------|
|                          | 2016/17    | 2017/18    | 2018/19    | 2019/20    | 2020/21    | 2021/22    | 2022/23    | 2023/24    | Progress           | % Change |
| Consumption (kWh)        | 66,808,235 | 63,690,923 | 64,857,362 | 66,407,242 | 59,808,497 | 64,095,021 | 60,274,987 | 57,837,072 | -2,437,915         | -4%      |
| Carbon Emissions (tCO2e) | 18,923     | 16,258     | 14,822     | 14,443     | 12,581     | 13,026     | 11,846     | 11,649     | -197               | -2%      |

As part of our Carbonfoot print analysis we monitor the energy consumption of our non-domestic buildings and have identified our top 10 consumers, which are set out in the table below. This allows us to not only identify the extent of the challenge we are facing but also idicates where our focus should lie. A good example of how we are focusing our work on these high consumers is Carmarthen Leisure Centre and as you can see, it ranks second. Energy effeincy measures and solar panels were installed at the site under Re:Fit phase 1 but more work was rewquired to help decarbonise the centre. This led to our recent application for round three of the Welsh Government Low Carbon Heat Grant in which we have been successful to receive financial support to install air source heat pumps. This project will completely erdicate the fossil fuel heating system that currently exists at the site, thus helping it becoming more sustainable. All the sites on the list are being put forward for energy efficiency works under Re:Fit phase 2.

| Rank | Site Name                            | Construction Year | 23/24 kWh    | 23/24 tCO <sub>2</sub> e | DEC Rating      |
|------|--------------------------------------|-------------------|--------------|--------------------------|-----------------|
| 1    | Amman Valley School & Leisure Centre | 1929 - 2014       | 3,944,348.72 | 747.23                   | 71 C (average)  |
| 2    | Carmarthen Leisure Centre            | 1982 - 2010       | 2,937,451.42 | 553.67                   | 54 C            |
| 3    | Llanelli Leisure Centre              | 1963 & 1994       | 2,234,595.02 | 426.78                   | 74 C            |
| 4    | Q E High School                      | 2008              | 1,885,321.40 | 370.32                   | 73 C            |
| 5    | Llys-y-Bryn Care Home & Day Centre   | 1987 & 2006       | 1,540,844.19 | 291.29                   | 91 D            |
| 6    | Ysgol Maes y Gwendraeth              | 1926 - 2016       | 1,539,643.46 | 305.71                   | 109 E (average) |
| 7    | Ysgol Bro Dinefwr                    | 2016              | 1,309,458.31 | 257.27                   | 73 C            |
| 8    | Ysgol Gyfun Dyffryn Taf              | 1980 - 2005       | 1,092,640.00 | 214.42                   | 55 C (average)  |
| 9    | Ysgol Gyfun y Strade                 | 1937 - 2013       | 996,654.21   | 194.67                   | 65 C            |
| 10   | Parc Myrddin                         | Approx. 1930      | 900,491.75   | 173.31                   | 84 (average)    |

### Progress against actions

| NZC-01                                                                                                                                                                                                                                                                                                                                   |                  |           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|
| Action                                                                                                                                                                                                                                                                                                                                   | Lead Officer     | Timescale |
| <b>Deliver Re:Fit Cymru (Energy Efficiency) Phase 1 project to achieve energy/carbon savings</b>                                                                                                                                                                                                                                         | Head of Property | Complete  |
| Progress                                                                                                                                                                                                                                                                                                                                 |                  |           |
| <p>Phase 1 of the Re:Fit Cymru project was completed in 2021 and saw the implementation of energy efficiency measures across 30 of the Council's buildings and has resulted in the following savings:</p> <ul style="list-style-type: none"> <li>- 71,874,488 kWh</li> <li>- 2,2929.68 tCO<sub>2</sub>e</li> <li>- £1,379,053</li> </ul> |                  |           |

| NZC-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------|
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Lead Officer                                   | Timescale |
| <b>Develop further phases of Re:Fit Cymru (Energy Efficiency) project, or similar, to achieve accelerated energy/carbon savings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Climate Change & Energy Transformation Manager | Ongoing   |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                |           |
| <p>We are currently working with Ameresco, our Re:Fit Cymru service provider, to scope phase 2 of the project. We are aiming for this phase to be more ambitious than the original phase and will be including a larger number of sites in its delivery. Phase 2 has been delayed due to other decarbonisation projects being completed by Ameresco on our behalf. In 2022 Energy efficiency measures including, double glazing, cavity wall insulation and roof improvements were installed at Carmarthen Learning Centre to improve the heat retention of the building. An air source heat pump was also installed which replaced the fossil fuel heating system at the centre with the additional electricity required to power the pump being offset by complementary solar PV that was also installed. LED lighting was also fitted to help reduce the energy usage of the site. This has resulted in the building saving 12.3 tCO<sub>2</sub>e from being emitted annually and between 2023-24 71,379 kWh of energy was avoided from being used. In 2023 we were awarded the Low Carbon Heat Grant (LHG) from Welsh Government, which facilitated Ameresco to install air source heat pumps at 6 of our primary schools, which has eradicated their fossil fuel heating systems. Solar PV was also installed at 5 of the sites to mitigate against the additional electricity required to run the</p> |                                                |           |

pumps. Unfortunately, the installation of the PV at one of the sites has been delayed due to the roof structure. Ameresco have also assisted us in our successful bid for round 3 of the LCH.

#### NZC-03

| Action                                                                                             | Lead Officer            | Timescale |
|----------------------------------------------------------------------------------------------------|-------------------------|-----------|
| <b>Incorporate 'Passivhaus' standard, where appropriate, in new building construction projects</b> | Property Design Manager | Complete  |

#### Progress

Property Design has continued to implement the Passivhaus Standard across design proposals for new build primary schools. These include Ysgol Gorslas, Ysgol Penbre and Ysgol Y Castell, all successfully completed with the last 24 months. However, with the implementation of Welsh Government cost standards for match funded schools across Wales there is an increasing need to economise building designs and space standards. Therefore, it is likely that the Authority will meet Net Zero Carbon design targets through the implementation of fabric first methodologies for buildings rather than rigorously adopting formal Passivhaus Standard accreditation.

Similar methodologies are being utilised in projects outside of the Education sector, namely in major social housing schemes and physical regeneration projects across Carmarthenshire, with investment in fabric design, incorporation of high levels of thermal insulation, exceptional airtightness, and mechanical heat recovery systems aiding building sustainability and performance. This extends to the encouragement of responsible material selection with reference to achieving embodied carbon targets set out by Welsh Government.

#### NZC-04

| Action                                                                                                                          | Lead Officer            | Timescale |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------|
| <b>Continually review and amend design specifications and briefs to reflect new technologies and energy efficient equipment</b> | Property Design Manager | Complete  |

#### Progress

We continue to review, economise, and optimise our approaches to new technologies and energy efficient equipment. This applies to the supporting of the fabric first methodology to building structure. Firstly, by reducing energy demand and then creating a positive offset against the production of new energy on site through the incorporation of solar generating systems, as an example.

#### NZC-05

| Action                                                                                                             | Lead Officer             | Timescale |
|--------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|
| <b>Extend 'smart' and sub-metering technology to ensure accurate and timely capture of energy consumption data</b> | Corporate Energy Officer | Ongoing   |

#### Progress

100% of the gas meters and 90% of our electricity meters have been updated to AMR. Upon completion of the electricity meter programme we will be conducting upgrades on our water supplies as only 1% of water meters are currently smart.

#### NZC-06

| Action                                                                                                                              | Lead Officer                                   | Timescale |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------|
| <b>Develop appropriate carbon reduction target for the Council's non-domestic buildings as part of annual review of action plan</b> | Climate change & energy transformation manager | Complete  |

#### Progress

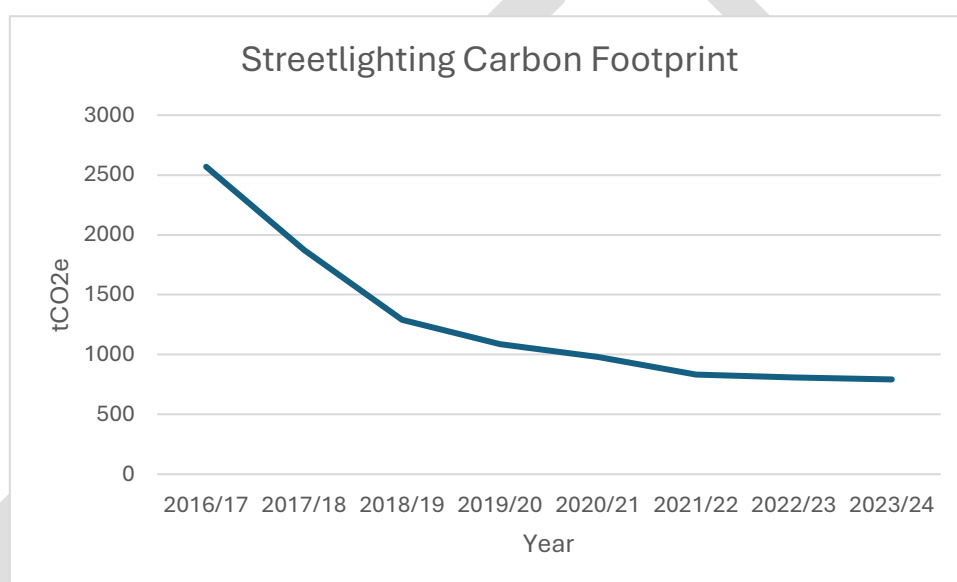
To achieve our Net Zero goal by 2030 our emissions need to be reduced by 20% annually.

### Additional PIMS actions

|       |                                                                                                             |
|-------|-------------------------------------------------------------------------------------------------------------|
|       | Develop a strategy to achieve Net Zero Carbon for in building-use as part of Property Design specifications |
| 17673 | Delivery of our energy efficiency / renewable energy 'retro-fit' programme across our estate                |

### Carbon Footprint: Streetlighting

We have converted approximately 90% of our streetlights to low energy light-emitting diode (LED) lighting, with the remainder being converted at the end of their life. This has resulted in a 69% reduction in carbon emitted and a 38% reduction in electricity used since our baseline year, which is shown in the graph below.



| Streetlighting           |           |           |           |           |           |           |           |           | 2022/23 VS 2023/24 |          |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|----------|
|                          | 2016/17   | 2017/18   | 2018/19   | 2019/20   | 2020/21   | 2021/22   | 2022/23   | 2023/24   | Progress           | % Change |
| Consumption (kWh)        | 5,718,531 | 4,873,979 | 4,202,381 | 3,925,149 | 3,875,843 | 3,599,124 | 3,594,185 | 3,521,319 | -72,866            | -2%      |
| Carbon Emissions (tCO2e) | 2,569     | 1,874     | 1,291     | 1,088     | 981       | 832       | 809       | 792       | -17                | -2%      |

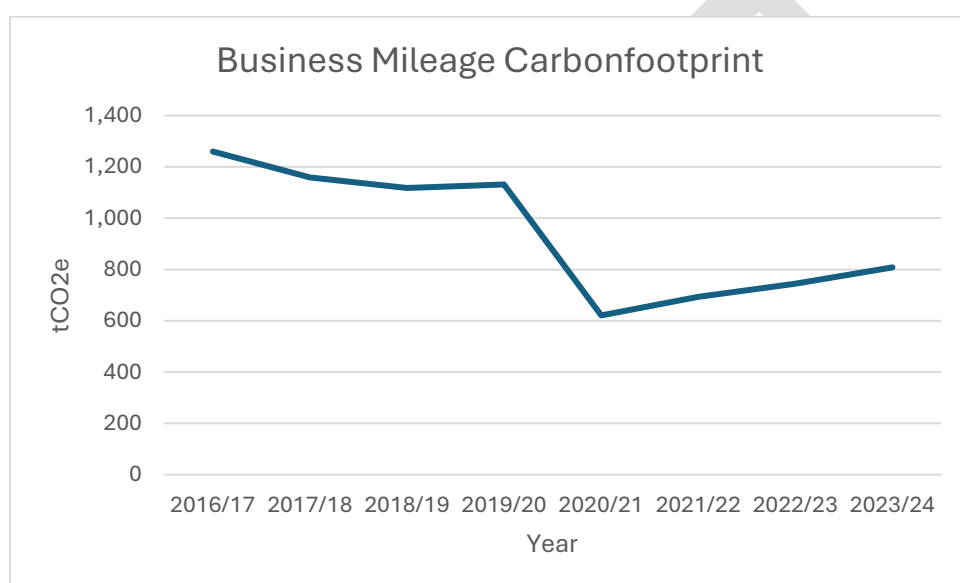
### Progress against Actions

| NZC-07                                                                                                               |                          |           |
|----------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|
| Action                                                                                                               | Lead Officer             | Timescale |
| Develop appropriate carbon reduction target for the Council's streetlighting as part of annual review of action plan | Public Lighting Engineer | Complete  |
| Progress                                                                                                             |                          |           |

Currently ~90% of our streetlights have been converted to LED with the remainder scheduled to be changed at the current bulbs end of life. For further carbon reductions the possibility of using alternative streetlight technology, e.g. solar powered, needs to be explored as well as lighting hours. A target of 10% reduction in carbon emissions needs to be achieved by 2030.

## Carbon Footprint: Fleet Mileage

Since our baseline year we have successfully reduced our Fleet Mileage carbon emissions by 7%. However, we have seen a drastic increase of 22% in the miles travelled compared to 2022/23 as services provided increase and life reverts to pre-covid. Nevertheless, we have seen a 2% decrease in our Fleet Mileage carbon emissions due to the introduction of more electric vehicles within our fleet. This shows the positive impact that electric vehicles can have on our emissions especially if we are unable to reduce the miles that our fleet travels due to the services we are required to deliver.



| Fleet Mileage            |           |           |           |           |           |           |           |           | 2022/23 VS 2023/24 |          |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|----------|
|                          | 2016/17   | 2017/18   | 2018/19   | 2019/20   | 2020/21   | 2021/22   | 2022/23   | 2023/24   | Progress           | % Change |
| Mileage (Miles)          | 5,127,150 | 5,121,289 | 5,293,249 | 5,154,668 | 4,427,070 | 4,262,681 | 4,496,754 | 5,466,196 | 969,442            | 22%      |
| Carbon Emissions (tCO2e) | 3,790     | 3,852     | 3,856     | 3,814     | 3,407     | 3,573     | 3,584     | 3,507     | -77                | -2%      |

## Progress against actions

### NZC-08

| Action                                                                                       | Lead Officer  | Timescale |
|----------------------------------------------------------------------------------------------|---------------|-----------|
| <b>Review the most appropriate fuel powered vehicles for each of the Council's services.</b> | Fleet Manager | Ongoing   |

### Progress

Currently EVs make up 8.6% of the authority's fleet. However, the Climate Change and Nature Emergency Cross Party Advisory Panel (CCNEAP) has commenced a deep dive into the authority's transport sector, developing a transition plan to convert to a low emissions fleet. The recommendations will be presented to Cabinet during the summer of 2025.

### NZC-09

| Action                                                                                                                            | Lead Officer  | Timescale |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|
| <b>Develop an appropriate carbon reduction target for the Council's fleet mileage as part of annual review of the action plan</b> | Fleet Manager | Complete  |
| Progress                                                                                                                          |               |           |
| We aim to transition 10% of our fleet to Electric vehicles annually.                                                              |               |           |

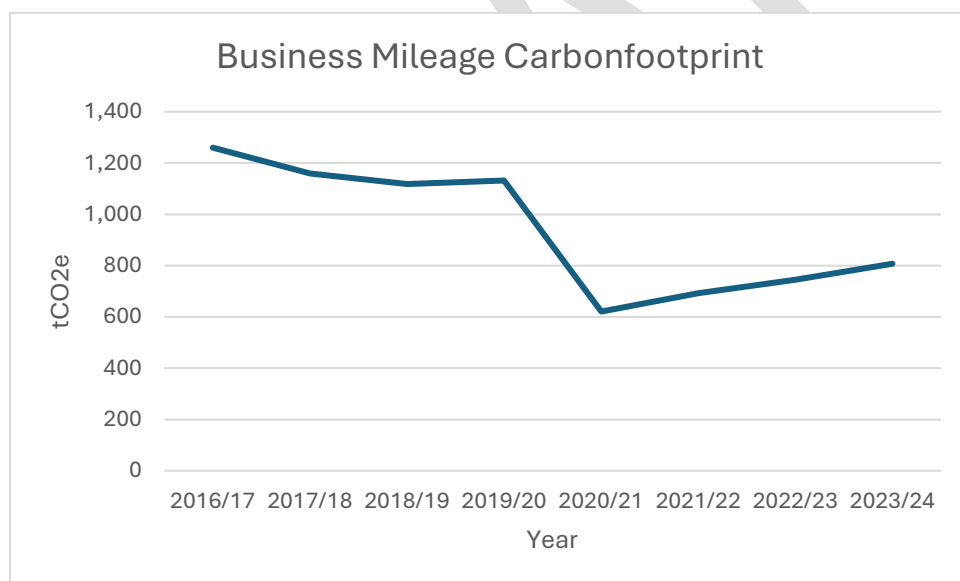
### Additional PIMS actions

|       |                                                                                         |
|-------|-----------------------------------------------------------------------------------------|
| 17484 | Develop and implement a new Fleet Strategy [including Electric Vehicle Transition Plan] |
|-------|-----------------------------------------------------------------------------------------|

### Carbon footprint: Business Mileage

The carbon emissions derived from our Business Mileage have successfully reduced by 36% since our baseline year. This has largely been the result of the introduction of hybrid working allowing more meetings and events to take place virtually. Although there has been an overall decrease, we have unfortunately seen an 8% increase in emissions when comparing to our 2022/23 data. This can be explained by that although hybrid working has become mainstream, there has been a gradual rise in the number of in person meetings and events in recent years as we moved away from a covid world.

This however has highlighted the need for more work to be done in this area to reduce our carbon emissions.



| Business Mileage         |           |           |           |           |           |           |           |           | 2022/23 VS 2023/24 |          |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|----------|
|                          | 2016/17   | 2017/18   | 2018/19   | 2019/20   | 2020/21   | 2021/22   | 2022/23   | 2023/24   | Progress           | % Change |
| Mileage (Miles)          | 4,186,640 | 3,948,586 | 3,846,615 | 3,971,513 | 2,251,986 | 2,511,091 | 2,775,432 | 2,954,503 | 179,071            | 6%       |
| Carbon Emissions (tCO2e) | 1,260     | 1,159     | 1,118     | 1,132     | 621       | 693       | 745       | 808       | 63                 | 8%       |

### Progress against Actions

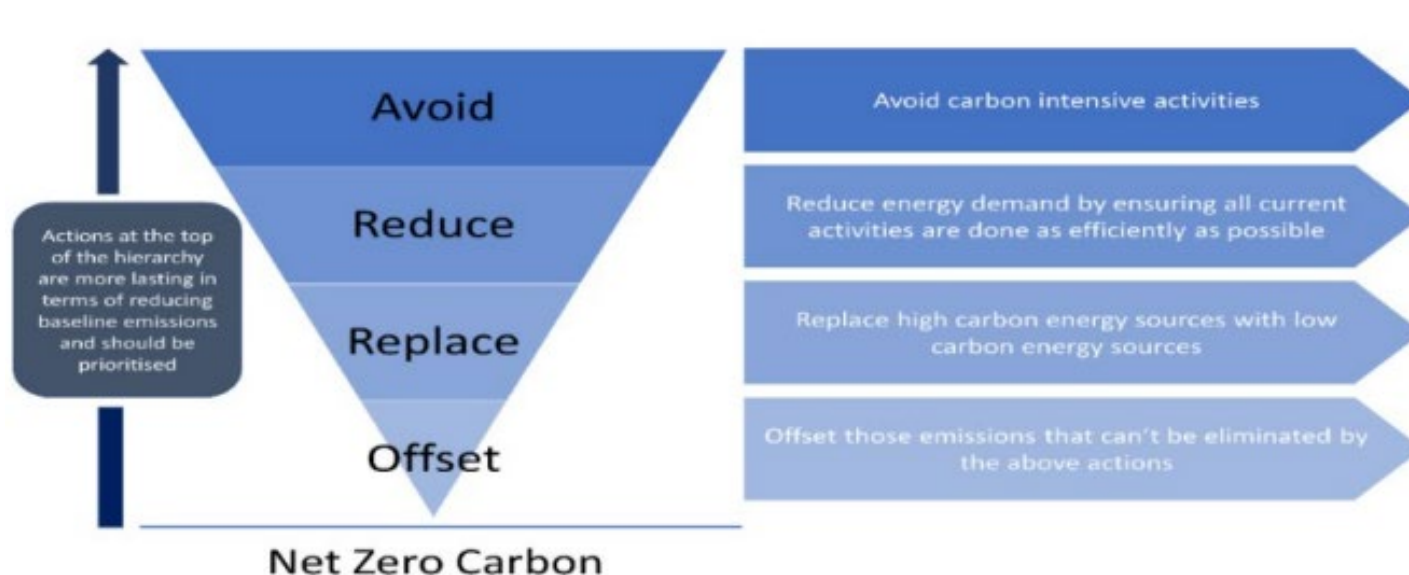
| <b>NZC-10</b> |              |           |
|---------------|--------------|-----------|
| Action        | Lead Officer | Timescale |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                             |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------|
| <b>Undertake a review of the Council's pool cars to identify opportunities for carbon reduction.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | Head of Transportation & Highways           | Complete  |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                             |           |
| <p>Corporately available pool cars are a mixture of hybrids and fully electric vehicles, where previously there was a reliance on internal combustion engine vehicles. Worked has also been done to increase the usage of these vehicles which helps promote sustainable staff travel.</p> <p>To align with the corporate approach and the commitment to reduce carbon emissions, a TEEP form has been developed. Once implemented this will require clear justification for why a non-electric vehicle replacement should be considered.</p> |                                             |           |
| <b>NZC-11</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                             |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lead Officer                                | Timescale |
| <b>Finalise electric vehicle strategy for the County.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Transport Strategy & Infrastructure Manager | Ongoing   |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                             |           |
| The <a href="#">Electric Vehicle Charing Infrastructure Strategy</a> was published in 2022 and a second version is currently being drafted.                                                                                                                                                                                                                                                                                                                                                                                                   |                                             |           |
| <b>NZC-12</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                             |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lead Officer                                | Timescale |
| <b>Develop appropriate carbon reduction target for the Council's business mileage as part of annual review of action plan</b>                                                                                                                                                                                                                                                                                                                                                                                                                 | Head of Transportation & Highways           | Complete  |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                             |           |
| We have set a target of an annual 10% reduction in the Council's business mileage. Through our people and cultural change plan we will promote the use of electric pool cars, the use of public transport and active travel to reduce the Council's business mileage.                                                                                                                                                                                                                                                                         |                                             |           |

### **Additional PIMS actions**

|       |                                                                                                                                                                                                                                                                                                                                                                    |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17457 | Develop facilities within Carmarthenshire County Council offices to support Active Travel for visitors, members, and officers. Looking at bike racks, changing rooms, shower facilities etc. <b>[Vision 65]</b>                                                                                                                                                    |
| 17458 | Deliver the cycle and pedestrian path from Carmarthen to Llandeilo which will be a huge boost to local towns and villages, and tourism throughout the county. <b>[Vision 66]</b>                                                                                                                                                                                   |
| 17469 | Continue to bid for finances via Welsh Government to enable further roll out of public access charging points across the county in accordance with our Electric Vehicle Infrastructure strategy; focus on the strategic highway network; look at locations across urban and rural areas, including the first super-charging hub in Cross Hands. <b>[Vision 55]</b> |
| 17483 | That the Council works with partners to consider further investment in the electric charging points network across the County with a focus on development of the infrastructure as part of the 10 Rural Towns initiative. <b>MFR 29</b>                                                                                                                            |
| 17525 | Utilise funding to implement the Active Travel Masterplans for our principal towns. We will monitor their effectiveness through quantitative (counts) and qualitative (Surveys) analysis to Improve Active Travel routes for communities                                                                                                                           |
| 17526 | Number of Traffic Free KM in Carmarthenshire (walking, wheeling and cycling infrastructure) [baseline]                                                                                                                                                                                                                                                             |
| 17527 | Number of users of the Cycle Bike Hire in each location                                                                                                                                                                                                                                                                                                            |
| 17529 | Number of School Travel Planning Kits/Sustrans Active Travel School Plans Issued to encourage active travel to school                                                                                                                                                                                                                                              |
| 17532 | Identify additional potential funding to educate primary aged pupils on feeling safer in the communities walking and cycling.                                                                                                                                                                                                                                      |

## Renewable Energy Generation and Carbon Insetting & Offsetting



The Council's approach to Net Zero is to focus on significantly reducing our carbon footprint but recognises that it is impossible to completely eradicate all our emissions. This situation is acknowledged by the 'Net' in the Net Zero Carbon equation, meaning our residual carbon footprint must be offset by the generation of renewable energy and carbon sequestration e.g. tree planting. However, we continue to pursue the carbon mitigation hierarchy approach as we do not consider offsetting as a 'get out clause' for reducing our carbon footprint.

We have continued to install solar PV systems on our non-domestic buildings, including schools, and currently have a total installed capacity of around 1.8 MWp. Our ambition is it generate all our own electricity through renewable sources, but this is a long-term goal which is faced with many constraints. The main constraints being the financial ability and the capacity of the national grid. When installing roof top solar PV we also must consider the structural soundness of the roof, and we unfortunately have a lot of old buildings within our estate. We also do not own a lot of land that could be used for ground mounted PV or wind turbines. The below table illustrates the electricity generated by our solar PV installations.

| Solar PV                     | 2019/20 | 2020/21   | 2021/22   | 2022/23   | 2023/24   |
|------------------------------|---------|-----------|-----------|-----------|-----------|
| Electricity Generation (kWh) | 997,480 | 1,059,364 | 1,106,902 | 1,317,121 | 1,082,623 |

\*Due to faulty meters our solar PV electricity generation is based on applying an average of 736 kWp/kWh generation across the board. This figure has been calculated using 15 sites that have fully operational meters.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                |           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------|
| <b>NZC-13</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lead Officer                                   | Timescale |
| <b>Work with the Welsh Government Energy Service (WGES) to explore and deliver opportunities for large scale renewables.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           | Climate change & energy transformation manager | Ongoing   |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |           |
| The WGES produced a Land Asset Review looking at the potential of ground mounted PV and wind turbines on our bare land holdings. They identified priority sites that offer the greatest potential. We are hoping to implement some of their considerations through phase 2 of Re:Fit. The WGES is also helping to develop the implementation of a solar canopy project within Carmarthen town centre which is currently at feasibility stage. The WGES is an extremely valued asset and we will continue to work with them to explore large scale renewables projects. |                                                |           |
| <b>NZC-14</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lead Officer                                   | Timescale |
| <b>Work with the National Procurement Service (NPS) to support greater procurement of energy from locally generated renewable energy projects.</b>                                                                                                                                                                                                                                                                                                                                                                                                                     | Climate change & energy transformation manager | Complete  |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |           |
| 100% of the electricity we procure using the Crown Commercial Service Framework Agreement is matched to power that has been generated by renewable energy sources within Wales, and we hold the Renewable Energy Guarantees of Origin (REGO) certificates to verify this. Whilst this does not equate to 100% clean energy at the point of use, it does signify the Authority's commitment to renewables by aiding the stimulation of an increase in renewable generating assets within Wales.                                                                         |                                                |           |
| <b>NZC-15</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lead Officer                                   | Timescale |
| <b>Explore the feasibility of tree-planting and other such measures, on Council controlled land to contribute towards carbon offsetting.</b>                                                                                                                                                                                                                                                                                                                                                                                                                           | Strategic Asset Manager                        | Ongoing   |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |           |
| The Woodland and Tree Strategy has been written and in line with the Welsh Government target the strategy sets out that the Council holds the target to plant 9.5ha of new woodland on our estate annually for the next 25 years, thus increasing our woodland cover from 12% to 17%. The Woodland Carbon Code calculator predicts that planting 9.5ha of broadleaf would result in 21.19 tCO <sub>2</sub> e would be sequestered.                                                                                                                                     |                                                |           |
| <b>NZC-16</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                |           |
| Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lead Officer                                   | Timescale |
| <b>Develop appropriate target for renewable energy generation as part of annual review of action plan.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Strategic Asset Manager                        | Complete  |
| Progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |           |
| The Council's long-term goal is to generate 100% of its electricity from renewable energy sources. To achieve this, we will continuously monitor the National Grid's capacity for new generation and our assets for the potential to install renewable energy systems. We will also utilise any funding opportunities that arise. We will ensure that all phases of the Re:Fit project will include renewable energy generation.                                                                                                                                       |                                                |           |

### Additional PIMS actions

|       |                                                                                                                                                    |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------|
|       | Identify additional sites for renewable energy generation potential                                                                                |
|       | Explore the potential to use town centre locations to generate renewable energy                                                                    |
| 16277 | Increase renewable energy on council owned land and work with partners to support renewable energy schemes across the county. [Vision 60] [MFR 48] |

|       |                                                                                                                                                                                                                                                                                                                                               |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16278 | Work with Welsh Government to ensure electricity infrastructure is in place to allow us to develop ambitious renewable energy projects to reach net zero. <b>[Vision 67]</b>                                                                                                                                                                  |
| 16542 | Delivery of actions as set out in Tree and Woodland Strategy                                                                                                                                                                                                                                                                                  |
| 16282 | Working with CCC's Strategic Land-use review group, identify and progress the planting of woodland on suitable sites, demonstrating the principles of responsible afforestation, and in consultation with local communities. Identify three further areas of woodland to be planted. Subject to grant aid being available. <b>[Vision 63]</b> |

### **Additional Actions Supporting the Strategic Direction**

As previously mentioned, we have a whole host of additional PIMS measures that fall outside our Net Zero Carbon Plan but are helping the Council and the County to decarbonise and enhance our natural environment. They also indicate how we are investing in carbon insetting as well. These measures are monitored quarterly and are scrutinised. They also represent how the Net Zero plan is ever evolving with new initiatives and transformations being developed and being incorporated into the PIMS monitoring system. All PIMS actions listed within this report have been taken from the Carmarthenshire County Council's 25-26 business delivery plan, therefore, all actions hold the target date of 31<sup>st</sup> March 2026 for completion. A list of the additional actions can be found below.

| PIMS Ref | Description                                                                                                                                                                                                                                                                             |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16297    | Utilise a phased approach for the implementation of a new kerbside waste collection system in 2025, that is compliant with Welsh Governments' Blueprint collection methodology. Changes to recycling, food, glass and residual collection services from 2025 [CV 48]                    |
| 16537    | Working with partners to develop a flagship circular economy / renewable energy site for Carmarthenshire                                                                                                                                                                                |
| 16538    | Deliver the Carmarthenshire Local Area Energy Plan                                                                                                                                                                                                                                      |
| 16539    | To undertake and support the work of the Nutrient Management Boards for the Tywi, Teifi and Cleddau in addressing the issues of phosphates in Rivers                                                                                                                                    |
| 16540    | To contribute to achieving minimum nutrient neutrality in response to phosphate and nutrient pollution issues in protected waters                                                                                                                                                       |
| 16543    | To evidence delivery of the Council's S.6 Biodiversity Duty to maintain and enhance biodiversity and promote ecosystem resilience.                                                                                                                                                      |
| 16563    | Develop a wider circular economy strategy to enable communities to proactively implement sustainable projects through existing community networks and for the authority to facilitate further infrastructure development to support circular economy aspirations.                       |
| new      | To support the service in the creation and delivery of a climate change and nature emergency communications plan. (CV47)                                                                                                                                                                |
|          | Develop a cost-effective plan to ensure all Council Homes are energy efficient and achieve a minimum EPC Band C as quickly as possible                                                                                                                                                  |
|          | Maximise the take up of the eco flex scheme within private sector housing.                                                                                                                                                                                                              |
|          | Using the 'Sport Zero Champions' training and model, raise awareness within the sport sector about the importance of sustainability, encouraging organisations, athletes and fans to adopt more environmentally friendly practices and promote social responsibility within the sector. |
|          | Work with Dyfed Pension Fund to continue the journey on reducing its carbon intensity and encourage Dyfed Pension Fund to work and learn from other pension funds with a view to further disinvestment in fossil fuels and non-ethical investments. (CVS57).                            |
|          | We will embed Net Zero Carbon into our procurement activity                                                                                                                                                                                                                             |
| 17794    | Work collaboratively to ensure all new education projects, plans & policies relating land managed by Ed. demonstrate best practice in delivering, net benefit for biodiversity, nature recovery & Green & Blue Infrastructure.                                                          |
| 17793    | Work in schools to educate learners about food production and how to cook healthy meals using local produce. (CV82)                                                                                                                                                                     |
| 17795    | On land managed by Education and CCC schools, identify opportunities to enhance biodiversity e.g., managing some areas of amenity grassland for pollinators, and areas suitable for tree planting, consistent with CCC's Tree and Woodland Strategy                                     |
| 17027    | Targets to reduce consumption based on Display Energy Certificates baseline data and future rationalisation proposals                                                                                                                                                                   |

|       |                                                                                                                                                                                                                                                                                              |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16780 | Delivery and monitoring of new Environment Act Forward Plan Jan 23 – Dec 25                                                                                                                                                                                                                  |
| 16798 | Roll out operational service standards handbook for the operational staff within Waste Services                                                                                                                                                                                              |
|       | Meet the council's commitment to carbon emission reduction by 2030, compared to 2016 baseline                                                                                                                                                                                                |
|       | Monitor and Implement the Nutrient Management Plans for the Afon Tywi, Teifi and Cleddau                                                                                                                                                                                                     |
| 16898 | Deliver the recommendations of the fly tipping task and finish group [Vision 62]                                                                                                                                                                                                             |
| 17445 | Deliver the Climate Change & Nature Emergency Strategy                                                                                                                                                                                                                                       |
| 17482 | Implement Service Level Agreements to include Land Management to reflect Bio Diversity Suitability for Land Use Biodiversity Cuts in accordance with Grassland Management Policy                                                                                                             |
| 17492 | Review and research carbon impacts of highway preventative maintenance versus reactive maintenance [whole life impact]                                                                                                                                                                       |
| 17494 | Review management and the capacity for Community Resilience in relation to the risk of adverse weather effects to include Highways Response to Flooding linked to Flood Coastal Erosion Risk Management Strategy.                                                                            |
| 17495 | Co-ordinate a review of the Sandbags Policy and community engagement events in relation to adverse weather events                                                                                                                                                                            |
| 17498 | That the Council works with local communities to address fly tipping and waste management issues in rural areas and monitors the impact of recently introduced changes at the Council's recycling centres and landfill sites in terms of levels of fly tipping in rural areas. <b>MFR 52</b> |
| 17499 | Develop a communication plan for Local Environmental Quality                                                                                                                                                                                                                                 |
| 17500 | Engage with fast food hot spots areas to develop specific localised action plan to reduce vehicle dropped litter                                                                                                                                                                             |
| 17501 | Deliver CCTV action plan to support environmental enforcement activities                                                                                                                                                                                                                     |
| 17503 | Co-ordinate 25 Pride in Your Patch litter pick events                                                                                                                                                                                                                                        |
| 17504 | Empower residents to take responsibility for their local environment by maintaining 20 volunteer groups per annum.                                                                                                                                                                           |
| 17505 | Implement 6 ward/area-based action plans based on evidence of specific waste related problems.                                                                                                                                                                                               |
| 17506 | Identify funding to deliver a resource for education, reuse and repair                                                                                                                                                                                                                       |
| 17507 | Continue to develop the ETO Project through wider community engagement with existing projects to work in partnership and collaboration in the Ten Town locations.                                                                                                                            |
| 17509 | Deliver a community programme of recycling participation surveys to 5% of households                                                                                                                                                                                                         |
| 17510 | Deliver 25 community engagement activities with residents, staff and community stakeholders.                                                                                                                                                                                                 |
| 17512 | Co-ordinate 8 staff drop-in sessions on Waste Strategy to include the Education Enforcement process and current waste collection strategy requirements                                                                                                                                       |

|       |                                                                                                                                                                                                                                                                                                                                                               |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16280 | Continue and accelerate the aim of being a Net Zero Carbon Local Authority by 2030 and set up a cross-party working group to move the Net Zero Carbon and Nature Emergency agenda forward. [Vision 47]                                                                                                                                                        |
| 16281 | In recognition of the Nature Emergency declared by CCC and WG; we will change our management practices to increase biodiversity of all council-owned land, and recognise the strong interrelationship between climate change, loss of biodiversity, and human wellbeing. Promote the use of CCC land for supporting nature recovery. [Vision 56]              |
| 17516 | Undertake assessment and rationalisation of all communal collection points in preparation for roll out                                                                                                                                                                                                                                                        |
| 17518 | Develop and deliver strategic action plan for 'Bulky Waste' service                                                                                                                                                                                                                                                                                           |
| 17519 | Implement the purchase strategy for leased waste collection fleet                                                                                                                                                                                                                                                                                             |
| 17521 | Develop an educational programme schedule for community and school engagement to raise awareness of repair, reuse and recycling initiatives                                                                                                                                                                                                                   |
| 17530 | Deliver 40 school visits to the ETO centre at Nantycaws                                                                                                                                                                                                                                                                                                       |
| 17531 | Develop and deliver an education programme for our primary aged pupils on; Environmental Enforcement and Local Environment Quality                                                                                                                                                                                                                            |
| 17645 | Deliver an annual drainage investigation programme—works will be delivered that focuses on surveys & repairs underground drainage assets. Communities of highest flood risk-surveys undertaken for functionality of drainage, also our knowledge & understanding of the drainage is robust. Maintenance & repairs actioned post surveys on a risk-based basis |
| 17653 | To lobby Welsh Government to fund and support direct action in Carmarthenshire working with local organisations to address the water pollution issues currently faced. <b>MFR 50</b>                                                                                                                                                                          |
| 17657 | To assist and to guide developer led mitigation towards nutrient neutrality including working in partnership with the Nutrient Management Boards to implement strategic response to facilitating development.                                                                                                                                                 |
| 17672 | Facilitate opportunities for Phosphate and Nutrient mitigation on council owned land                                                                                                                                                                                                                                                                          |
|       | Produce a feasibility Study for the implementation of an integrated surface water removal scheme including design for two Car Parks in Llandovery and Newcastle Emlyn as part of the Resilient Rivers Grant Award                                                                                                                                             |
|       | Develop and adopt community focused Place Plan guidance to support community interaction and ownership of policy and decision making                                                                                                                                                                                                                          |
| 17534 | Identify replacement programme (subject to funding) for replacement of underground cabling                                                                                                                                                                                                                                                                    |
| 17536 | Deliver fleet compliance review action plan to deliver safe, compliant and efficient fleet operations, processes and workshops.                                                                                                                                                                                                                               |
| 17537 | Develop and implement fleet renewal policy                                                                                                                                                                                                                                                                                                                    |
|       | Prepare, adopt and implement the Green and Blue Infrastructure Strategy for Carmarthenshire, including a developer and community toolkit.                                                                                                                                                                                                                     |

|       |                                                                                                                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | To prepare and adopt the Allotment and Community Growing Strategy as part of the Greening Carmarthenshire project                                                                                                                                                                                                                               |
|       | Prepare Placemaking Guidance to support the implementation of high-quality design across our communities                                                                                                                                                                                                                                        |
|       | To lobby Welsh Government to re-consider the introduction of the proposed Nitrate Vulnerable Zones regulations (aimed at improving water quality by restricting the period available for spreading slurry) and focus direct intervention on repeat offenders of slurry mismanagement rather than impose sanctions on all farmers. <b>MFR 51</b> |
|       | We will deliver large value cyclical improvement programmes across our existing housing stock to improve thermal performance and increase existing EPC levels. End of year target.                                                                                                                                                              |
|       | We will deliver a series of standalone major projects in line with the HRA investment programme.                                                                                                                                                                                                                                                |
|       | We will in accordance with the EPC legislation acquire certifications for all dwellings.                                                                                                                                                                                                                                                        |
| 16491 | Strategic Land Use Group – complete high-level review of CCC land holdings                                                                                                                                                                                                                                                                      |
|       | Expand the remit of the Strategic Land Use Group to incorporate the gathering of information on brown field sites for regeneration across the county, which will be used to inform the public on suitable sites for regeneration and their respective barriers to development                                                                   |
| 15674 | Prepare and adopt Revised Local Development Plan in accordance with the Delivery Agreement.                                                                                                                                                                                                                                                     |
| 16541 | Monitor and report on the delivery of the Grassland Management for Pollinators on the CCC Estate 2023-28 Pollinator Action Plan.                                                                                                                                                                                                                |
| 17448 | Implement the Flood Risk Management Plan - 2                                                                                                                                                                                                                                                                                                    |
| 16851 | Deliver a minimum of two projects to upgrade and or renew CCC owned Flood and Coastal Erosion Risk Management assets (subject to funding) from the Welsh Government Flood and Coastal Erosion Risk Management Small Scale Capital Scheme Grant                                                                                                  |
| 16852 | Deliver 100% of the actions from the annual reservoir inspections within the allocated bespoke time frames.                                                                                                                                                                                                                                     |
| 17449 | Lead the delivery of the Shoreline Management Plan and submit annual review to Corporate Management Team, Swansea and Carmarthen Bay Coastal Engineering Group and Welsh Government.                                                                                                                                                            |
| 17479 | To implement the current adopted Local Development Plan and monitor its success or otherwise against its identified delivery measures ensuring policies, procedures and practices are being adhered to.                                                                                                                                         |
| 17665 | Deliver the Flood Defence and Coastal Protection capital works programme                                                                                                                                                                                                                                                                        |
|       | Identify and implement opportunities for the Local Places for Nature (LPfN) Management Plan to deliver 2 schemes which align with the Tree and Woodland Strategy, and the Green and Blue Infrastructure Strategy and placemaking objectives                                                                                                     |
|       | Identify and implement opportunities to align the Tree and Woodland Strategy (TWS) with limiting the effects of flooding through native tree planting initiatives, aiming to deliver 2 schemes                                                                                                                                                  |
|       | Identify and implement opportunities to align Tree and Woodland Strategy with nutrient mitigation                                                                                                                                                                                                                                               |

|  |                                                                                                                              |
|--|------------------------------------------------------------------------------------------------------------------------------|
|  | Implement year-2 of a bi-annual Flood and Coastal Erosion Risk Management (FCERM) asset inspection and maintenance programme |
|--|------------------------------------------------------------------------------------------------------------------------------|

DRAFT

## APPENDIX 2

### THE COST TO DECARBONISE

Without a national model in place the following methodology was developed in conjunction with Swansea Council to predict the cost of becoming a Net Zero local authority. It is important to note that the figures are based on assumptions and estimates, therefore, these figures are not definitive.

Moreover, the investment in decarbonisation will not be borne by the council alone. A significant proportion of the cost will need to come from third parties including central government through grant funding and direct investments in cleaner technologies. Monies will also be redirected from purchasing fossil fuel powered technology.

The council is actively seeking funding from a variety of sources, using invest to save mechanisms and delivering decarbonisation projects collaboratively in conjunction with other interested parties.

|                               | Current tCO <sub>2</sub> e | Investment                                                                                                                                                                                                                                                                                                                                                                                                                                              | Balance of tCO <sub>2</sub> e | Cost     |
|-------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------|
| <b>Buildings &amp; Energy</b> | 11,649                     | Energy efficiency measures. Renewable energy generation systems. Heat networks.                                                                                                                                                                                                                                                                                                                                                                         | 3,000                         | £73m+    |
| <b>Street Lighting</b>        | 792                        | CCC managed streetlighting has virtually all been converted to LED with the very few remaining scheduled for LED at 'end of life'. Consequently, there's very little more we can do (other than switch off for longer) until new technology is available. Direct tCO <sub>2</sub> e reductions have been significant over recent years but are now plateauing – but will continue to decrease in line with the decarbonisation of the electricity grid. | 600                           | £1m      |
| <b>Fleet</b>                  | 3,507                      | 113 HGVs x price differential of £200k each = +£23m<br>Welfare buses (25), Minibuses (32), LGVs (313), Cars (87)<br><b>Vehicles coming around again for renewable before 2030 @ +£15m</b>                                                                                                                                                                                                                                                               | 0                             | £56m     |
| <b>Grey Fleet</b>             | 808                        | Travel claims                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0                             | £3m      |
| <b>Total</b>                  | 16,756                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3,600                         | £133m+   |
| <b>Land Use</b>               | -699                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                               |          |
| <b>Insetting</b>              | -1027                      | Report undertaken by City Science. To inset our predicted residual emissions, we will need:<br>-5.5MW solar = £2.5 million<br>- Tree planting = £130,000 upfront cost                                                                                                                                                                                                                                                                                   | -1027                         | £2.6m +  |
| <b>Offsetting</b>             | -2598                      | Purchased verified offsets = £59,000 annual fee                                                                                                                                                                                                                                                                                                                                                                                                         | -2598                         | £59,000  |
| <b>Total</b>                  | 12,432                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                               | £135.6m+ |

This methodology has been offered to the WLGA and the Welsh Government to help other local authorities and develop a national model. The Welsh Government have announced that a national model is due to be released in 2025. Once we have received this we will assess and will look to incorporate it as part of the development of our Net Zero Carbon Plan.

DRAFT

## APPENDIX 3

### **CLIMATE CHANGE AND NATURE EMERGENCY PEOPLE AND CULTURAL CHANGE PLAN**

Carmarthenshire County Council is committed to reducing the impacts of climate change and the enhancement and preservation of the natural environment. The authority has set ambitious goals which can only be achieved with the support and dedication from everyone. Therefore, a people and cultural change plan is a vital tool for engaging others by transmitting information about the climate change and nature emergencies. It also ensures our messages are structured, clear, consistent and aligned with our organisational aspirations. Therefore, the plan is a critical component for achieving our goals, building relationships and maintaining a positive and credible presence in our community. The importance of the plan is magnified by the urgency of the matter as action is required now, by everyone, as it affects all aspects of our lives. It was also highlighted in the latest public survey that only 19% of respondents agreed that the climate emergency is being addressed locally and 37% disagreed that their local environment is pleasant and well looked after. This, more than anything, shows that greater engagement with the public is needed not only to improve their understanding but also our own.

#### **Objectives and Delivery**

The plan has been developed based on the Well-being of Future Generations Act's sustainability principle and the five ways of working; collaboration, integration, involvement, long-term and prevention.

The objectives of the plan are as followed:

- Convey how Carmarthenshire County Council is transitioning to Net Zero and protecting and enhancing biodiversity through effective communications, initially focusing on three main groups within our community – Schools, Council Tenants and Council Staff. This will enable greater collaboration between the authority and the public.
- Encourage effective behavioural change by building knowledge through training and education that will inspire action.
- Build a collective understanding of new policies and strategies that align to this agenda to help educate people on what is being done in this space both locally and nationally.

- Celebrate the work that has been done and demonstrate the effective outcomes to encourage positive mentalities and integration in and around this workstream.
- Encourage involvement from all Carmarthenshire County Council departments, stakeholders and the public, especially the three focus groups.

The plan will follow the Welsh Government's 5 E's Green Choices Framework in its delivery:

**Exemplify:** We will lead by example and ensure that the message we convey regarding our work inspires others to act and adopt green behaviours.

**Enable:** we will educate to increase knowledge and provide support where possible to enable other departments, stakeholders and the public to make green choices.

**Evaluate:** we will communicate the impact of our actions and demonstrate their outcomes, to encourage integration and collaboration, reinforcing the message that collaboratively we can make a difference.

**Engage:** where possible we will involve others in our work and our delivery.

**Encourage:** throughout our communications we will encourage people to make sustainable choices and to influence the people around them to make similar choices.

### **Target Audience**

The target audience for our communications is the whole of the local authority, Councillors, stakeholders, community groups, schools and the public. However, to gain initial momentum we will be prioritising our focusing locally on three groups – Schools, Council Tenants and Council Staff while working with the Welsh Government communications teams to provide focus to wider public messaging. We believe that by initially focusing on these groups gives a good perspective of Carmarthenshire residents as they represent a variety of demographics. These groups have also been chosen as we feel that an enormous amount of work is already being done in these areas but not necessarily communicated effectively. Furthermore, we believe these groups have the potential to facilitate a snowball effect of knowledge which will aid the cultural change that is needed. Although we are starting with these groups are the focus of the the plan is not exclusive to them and will engage with the general public.

### **Key Messages**

The vital message we will convey throughout our communications is that we are unable to tackle climate change and the nature emergency on our own. Collaboration and a holistic attitude are vital to this agenda. We want to encourage a joined-up

approach by communicating key strategies and policies that are coming into force and how people can engage and adopt them. We will also be celebrating the successes of projects and key work that is being done throughout the local authority. Key national days will also be corresponded along with any events we are holding. Our communication will align with those from Climate Action Wales to further promote the joined-up approach. Through our messaging we also want to ensure that our focus groups know how they can, and are, making a difference; we want them to feel empowered and enthused, which in turn will encourage more action.

### **Channels and Platforms**

We will use a variety of different channels to ensure that our communications reach as many people as possible. We will share information on what the local authority is doing and national days that people can get involved in through the Staff Newsletter, the Council website, the Intranet and social media, which will be facilitated by the Marketing and Media team.

We will also host a Climate and Nature Forum. This will give us the opportunity to deliver presentations to local stakeholders, community groups and the public on the work we are doing. We will also deliver round table discussions to allow people to engage with key officers and provide their ideas and feedback. This will also give us the opportunity to discuss how we can work collaboratively to achieve our targets. Furthermore, this approach will also be taken for our three focus groups – Schools, Council tenants and Council staff. This will provide an excellent opportunity to meet and get to know the groups and provide us with an insight into their current knowledge and understanding. It will also provide us with valuable time to effectively communicate what we as an authority are doing as well as providing an opportunity for them to give feedback and assess how we can improve and work together. This will help promote positive relationships and a stronger bond between the council and local communities.

The ThinQi platform will also be used to encourage staff members to further their knowledge on our approach to Net Zero, and similarly on biodiversity and our Environmental Act duty through e-learning modules.

### **Activities**

#### **1) Focus Group Workshops**

Meet each focus group (Schools, Council Tenant and Council staff) and deliver a round table style discussion with the key topics of discussion being:

- Their current level of understanding on climate change and the nature emergency.

This will enable us to put together some bespoke learning material on these topics to help strengthen their knowledge. This will ensure that they know exactly why we need to change our behaviours and attitudes.

- What we as a local authority are doing to help tackle climate change and the nature emergencies with a focus on their areas.

This will help them to understand that we are being proactive in this space and how the projects we are implementing will affect them. For example, we can inform the Council tenants who have had renewable energy systems installed on their home exactly how it works and how it will benefit them. By drawing attention to the benefits of what we are doing, and how they will positively affect the groups, will help promote a better attitude and engagement with the projects we implement.

- Share ideas and best practices.

By bringing together a group of peers it will enable best practice and ideas to be shared. For example, by bringing together all headteachers into one space to discuss what they are already doing will encourage others to get involved. It is also essential that we allow time for the groups to share the ideas that they have, and where possible and suitable, we will help facilitate these ideas into fabrication.

## 2) **Local Area Energy Plan (LAEP) Launch**

To encourage the embedment of the LAEP we can deliver workshops that present the outcome of the LAEP and its actions to; Members; Directors and Managers; and Stakeholders. It is essential that we effectively communicate within the workshops that the LAEP is everyone's responsibility and that we should all be working towards achieving the actions. We can facilitate discussions on how the actions can be achieved. It is predicted that the workshops will be 2 hours long and can be delivered either face-to-face or via Teams; using Teams may mean more people are able to join. A lunchtime learning session will be delivered, where all staff members of the council are invited to attend. This will be an effective way to ensure everyone knows what the LAEP is and that we should be working towards its actions. An extensive communication campaign to promote the learning session and of the LAEP itself will be essential to ensure everyone is aware of the plan. A communication campaign across the corporate website and social media will be utilised to inform the public of the plan. Further public engagement can be achieved through the climate change and nature emergency forum (below).

### 3) **Carmarthenshire County Council climate change and nature emergency forum**

The aim of the forum is to showcase the work that Carmarthenshire County Council are doing towards tackling climate change and overcoming the nature emergency. Ideally this would be a face-to-face day event that invites stakeholders, community groups and the public to listen to presentations on various council led workstreams. It would also be beneficial to have round table discussions on how these actions can also be delivered in the county by explaining what support we can provide. These round table discussions can also be a great opportunity to hear what is being done across the county, outside of the council, and provide an opportunity for the public to give feedback. The forum would depict and encourage a joined-up approach and reassure that this is a high priority agenda for the authority.

Suggested presentation topics:

- Carmarthenshire County Council's Net Zero Plan & the work we are doing to decarbonise
- Local Area Energy Plan
- Environmental Act duties
- Tree and Woodland Strategy
- Local Places for Nature work
- Pollinator work
- Green and Blue Infrastructure strategy
- The work schools are doing
- Nutrient Management
- EV Infrastructure Strategy

### **Review**

It is essential that we dedicate time to reflect on our communication activities to evaluate what has been effective. This will enable us to understand where we can make improvements and continue to be engaging within our delivery.

DRAFT

## APPENDIX 5

### REFERENCE LIST

BBC (2024). *What is climate change? A really simple guide* (2024) BBC News. Available at: <https://www.bbc.co.uk/news/science-environment-24021772>.

Bouygues UK (2025). *Pentre Awel Achieves Net Zero*. Available at: [Pentre Awel Achieves Net Zero - Bouygues UK](#)

Carmarthenshire County Council (2024). *Research, trends and development*. Accessible at: [Research, trends & development - Carmarthenshire County Council](#)

Carmarthenshire Nature Partnership (2020). *Nature in Carmarthenshire: our approach for local action 2020-2030*. Available at: [Carmarthenshire Nature Partnership](#)

Carmarthenshire Public Services Board (2023). *The Carmarthenshire We Want: Carmarthenshire Public Services Board Well-being Plan 2023-28*. Accessible at: [The Carmarthenshire We Want](#)

Climate Change Committee (2025). *Wales' Fourth Carbon Budget*. Accessible at: [Wales' Fourth Carbon Budget - Climate Change Committee](#)

Conservation on Biological Diversity (2024). *Kunming-Montreal Global Biodiversity Framework: 2030 Targets (with Guidance Notes)*. Available at: [2030 Targets \(with Guidance Notes\)](#)

Horton, H. (2024). *Blackbird numbers plummet in south of England amid potential spread of virus*. The Guardian. Available at: [Blackbird numbers plummet in south of England amid potential spread of virus | Birds | The Guardian](#)

James, J (2024). *Written Statement: Flood and Coastal Erosion Risk Management Programme 2024-25*. Welsh Government. Available at: [Written Statement: Flood and Coastal Erosion Risk Management Programme 2024-25 \(19 March 2024\) | GOV.WALES](#)

Kendon, M, Doherty, A, Hollis, D, Carlisle, E, Packman, S, McCarthy, M, Jevrejeva, S, Matthews, A, Williams, J, Garforth, J, Sparks, T (2024). *State of the UK Climate 2023*. International Journal of Climatology/ Volume 44, Issue S1/ pp.1-117.

McHugh, H. (2024) *How your houseplants could spark a hidden productivity boost*, BBC Science Focus Magazine - science, nature, technology, Q&As. Available at: <https://www.sciencefocus.com/science/houseplants-spark-productivity>.

Madge, G (2021). *Charting the UK's Changing Climate*. Met Office. Available at: [Charting the UK's changing climate - Met Office](#)

Met Office (2024). *Effects of climate change*. Available at: <https://www.metoffice.gov.uk/weather/climate-change/effects-of-climate->

[change#:~:text=How%20will%20climate%20change%20impact,affected%20by%20climate%20change%2C%20too.](#)

Met Office (2024). *2023 Was the Second Warmest Year on Record for UK*. Available at: [2023 was second warmest year on record for UK - Met Office](#)

Natural Resources Wales (2024). *New Report Predicts Impact of Future Heatwaves in Welsh Cities*. Available at: [Natural Resources Wales / New report predicts impact of future heatwaves in Welsh cities](#)

Natural Resources Wales (2024). *South West Wales Area Statement*. Available at: [Natural Resources Wales / South West Wales Area Statement](#)

NatureScot (2024). *30 by 30 Explained: Background on 30x30 to help inform the co-design of Scotland's 30x30 framework*. Available at: [30 by 30 explained | NatureScot](#)

Netherwood, N (2021). *UK Climate Risk. Evidence for the third UK Climate Change Risk Assessment (CCRA3): Summary for Wales*. Available at: [CCRA-Evidence-Report-Wales-Summary-Final.pdf](#)

Pollinators in Wales & Welsh Government (2018). *Action Plan for Pollinators: Review 2013-18 and Future Actions*. Available at: [action-plan-for-pollinators-review-and-future-actions-en.pdf](#)

Santos, S. Roxby, P. (2025). *West Nile Virus detected in UK mosquitoes for first time*. BBC News. Available at: [West Nile virus detected in UK mosquitoes for first time - BBC News](#)

Senedd Research (2023). *Flood Risk Management in Wales: are Changes Needed?* Available at: [Flood risk management in Wales: are changes needed?](#)

SQW (2021). *South West Wales Regional Economic Delivery Plan*. Available at: [South West Wales Regional Economic Delivery Plan - Swansea](#)

Taylor, S (2023) *Wellbeing of Wales, 2023*. Available at: [Wellbeing of Wales, 2023: a globally responsible Wales \[HTML\] | GOV.WALES](#)

UK Health Security Agency (2025). *Heat mortality monitoring report: 2023*. Available at: [Heat mortality monitoring report: 2023 - GOV.UK](#)

United Nations. Climate Change (2024). *The Big Picture. Adaptation and Resilience*. Available at: [Introduction | UNFCCC](#)

Welsh Government (2015) *Well-being of Future Generations (Wales) Act 2015: the essentials*. Available at: [Well-being of Future Generations \(Wales\) Act 2015: the essentials \[HTML\] | GOV.WALES](#)

Welsh Government (2016). *Environment (Wales) Act 2016 Factsheet*. Available at: [Factsheet 1 overview of the Environment \(wales\) bill english](#)

Welsh Government (2017). *Natural Resources Policy*. Available at: [\\*natural-resources-policy.pdf](#)

Welsh Government (2021). *Llwybr Newydd: The Wales Transport Strategy 2021*. Available at: [Llwybr Newydd A New Wales Transport Strategy 2021: full strategy](#)

Welsh Government (2021). *The Nature Recovery Action Plan for Wales 2020-21*. Available at: [The Nature Recovery Action Plan for Wales 2020 to 2021](#).

Welsh Government (2022) *Biodiversity deep dive: recommendations. Outcome of the biodiversity deep five focussing on protecting at least 30% of the land and 30% of the sea by 2030*. Wales.

Welsh Government (2024). *Climate Adaptation Strategy for Wales*. Available at: [Climate Adaptation Strategy for Wales](#)

DRAFT