



Route towards becoming a Net Zero Carbon Local Authority by 2030

DRAFT Progress Report
February 2021

Cyngor Sir Gâr
Carmarthenshire
County Council



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Cllr Cefin Campbell

Executive Board Member for Communities and Rural Affairs

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High Level Summary

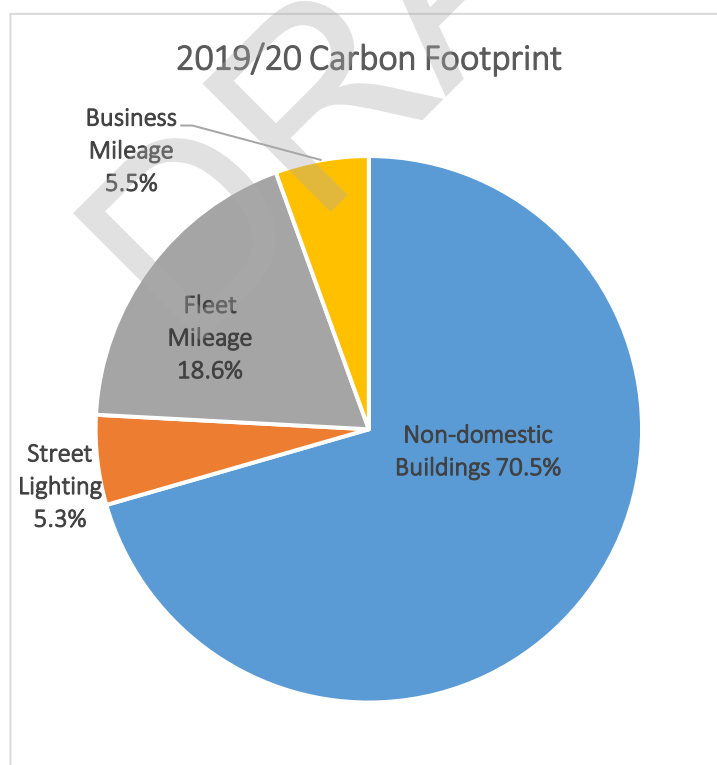
Carbon Footprint

	2016/17	2017/18	2018/19	2019/20	2018/19 vs 2019/20	
	Results				Progress	% change
Non-Domestic Buildings						
Consumption (kWh)	66,808,735	63,690,923	64,857,362	66,407,242	Declined	+2.4%
Carbon Emissions (tCO ₂ e)	18,923	16,258	14,822	14,443	Improved	-2.6%
Street Lighting						
Consumption (kWh)	5,718,531	4,873,979	4,202,381	3,925,149	Improved	-6.6%
Carbon Emissions (tCO ₂ e)	2,569	1,874	1,291	1,088	Improved	-15.7%
Fleet Mileage						
Mileage (Miles)	5,127,150	5,121,289	*5,293,249	5,154,668	Improved	-2.6%
Diesel Used (litres)	1,416,276	1,441,751	1,434,583	1,419,336	Improved	-1.1%
Carbon Emissions (tCO ₂ e)	3,790	3,852	3,856	3,814	Improved	-1.1%
Business Mileage						
Mileage (Miles)	4,186,640	3,948,586	3,846,615	3,971,513	Declined	+3.2%
Carbon Emissions (tCO ₂ e)	1,260	1,159	1,118	1,132	Declined	+1.2%
TOTAL						
Consumption (kWh)	72,527,266	68,564,902	69,059,743	70,332,391	Declined	+1.8%
Mileage (miles)	9,313,790	9,069,875	8,829,043	9,126,181	Declined	+3.4%
Carbon Footprint (tCO ₂ e)	26,542	23,143	21,087	20,477	Improved	-2.9%

Note:

* This figure has been updated to correct for incorrect mileage entries.

Breakdown of carbon footprint by percentage of emissions by each area.



Offset Equivalents

Carbon Footprint 2019/20 (tCO ₂ e)		Equivalent Offsetting Requirement								
		Solar Panels			Wind Turbines			Forested Land (ha)		
		2018/19	2019/20	% change	2018/19	2019/20	% change	2018/19	2019/20	% change
Non-domestic Buildings	14,443	175,450	189,398	7.9%	41	44	7.3%	24,099	23,482	-2.6%
Street Lighting	1,088	15,282	14,267	-6.6%	4	3	-25.0%	2,099	1,769	-15.7%
Fleet Mileage	3,814	45,644	50,015	9.6%	11	12	9.1%	6,269	6,201	-1.1%
Business Mileage	1,132	13,234	14,844	12.2%	3	3	0.0%	1,818	1,840	1.3%
TOTAL	20,477	249,610	268,524	7.6%	59	62	5.1%	34,285	33,293	-2.9%
Equivalent Installed Capacity (MW)		62.4	67.1		29.5	31.0				

Comparators:

- Equivalent number of 500 kW wind turbines (~327 tCO₂e/year | ~1,180 MWh/year) (capacity of wind turbine at Nant y Caws)
- Equivalent number of individual 250 W solar PV panels (~0.07626 tCO₂e/year | ~275 kWh/year)
- Equivalent area of Forested Land based on Welsh Government draft carbon reporting guidance. Presumes forested land planted is in place of grass land. For context, we own ~6,500 ha of land not including housing

Renewable Energy Generation

Renewable Energy Generation	2016/17	2017/18	2018/19	2019/20	2019/20 vs 2018/19	
	Result				Progress	% change
Solar PV						
Installed Capacity (kWp)	1,153	1,153	1,193	1,193	No Change	0%
Electricity generation (kWh)	670,401	937,330	979,071	997,480	Improved	+1.9%
Equivalent Carbon Savings (tCO ₂ e)	301	360	301	277	Declined	-8.0%

The continuing decarbonisation of the electricity distribution network (National Grid) means that the emission conversion factor for electricity is decreasing. Whilst this has a positive impact in reducing our carbon footprint, it conversely has a negative impact in reducing the equivalent carbon savings from renewable energy generation, thus requiring more wind turbines / solar PV panels to offset our (reducing) carbon footprint.

Progress against Actions

Ref	Action	By When	Progress
Carbon Footprint – Non-domestic buildings			
NZC-01	Deliver Re:fit Cymru (Energy Efficiency) Phase 1 project to achieve energy / carbon savings	Apr 2021	
NZC-02	Develop further phases of Re:fit Cymru (Energy Efficiency) project, or similar, to achieve accelerated energy / carbon savings	On-going	
NZC-03	Incorporate the 'Passivhaus' Standard, where appropriate, in new building construction projects	On-going	
NZC-04	Continually review and amend design specifications and briefs to reflect new technologies and energy efficient equipment	On-going	
NZC-05	Extend 'smart' and sub-metering technology to ensure accurate and timely capture of energy consumption data	On-going	
NZC-06	Develop appropriate carbon reduction target for the Council's non-domestic buildings as part of annual review of action plan	Mar 2021	

Ref	Action	By When	Progress
Carbon Footprint – Street Lighting			
NZC-07	Develop appropriate carbon reduction target for the Council's street lighting as part of annual review of action plan	Mar 2021	

Carbon Footprint – Fleet Mileage			
NZC-08	Review the most appropriate fuel powered vehicles for each of the Council's Services	On-going	
NZC-09	Develop appropriate carbon reduction target for the Council's fleet mileage as part of annual review of action plan	Mar 2021	

Carbon Footprint – Business Mileage			
NZC-10	Undertake a review of the Council's pool cars to identify opportunities for carbon reduction	TBC	
NZC-11	Finalise electric vehicle strategy for the County	TBC	
NZC-12	Develop appropriate carbon reduction target for the Council's business mileage as part of annual review of action plan	Mar 2021	

Renewable Energy Generation / Carbon Offsetting			
NZC-13	Work with Welsh Government Energy Service to explore and deliver opportunities for large scale renewable energy projects	On-going	
NZC-14	Work with National Procurement Service (NPS) to support greater procurement of energy from locally generated renewable energy projects	On-going	
NZC-15	Explore the feasibility of tree-planting, and other such measures, on Council controlled land to contribute towards carbon offsetting	On-going	
NZC-16	Develop appropriate target for renewable energy generation as part of annual review of action plan	Mar 2021	

Working with Welsh Government			
NZC-17	Collaborate with Welsh Government and other 'early adopter' Public Bodies to introduce national carbon reporting framework as part of ambition to achieve carbon neutral Welsh public sector by 2030	Jun 2020	

Working with Carmarthenshire Public Services Board / Swansea Bay City Deal partners			
NZC-18	Work with Carmarthenshire Public Services Board's (PSB's) Healthy Environment Delivery Group to undertake a Climate Change and Environmental Risk Assessment for the County	On-going	
NZC-19	Work with Carmarthenshire PSB partners to identify and develop opportunities for collaboration regarding carbon reduction	On-going	
NZC-20	Work with Welsh Government and Swansea Bay City Region partners to establish a Regional Energy Plan for South West Wales	On-going	

Collaboration with experts from the private sector and 3rd sectors			
NZC-21	Work with the Council's contractors to explore innovative approaches to carbon reduction	On-going	
NZC-22	Participate in the Carmarthenshire 3 rd Sector Environment Network established by Carmarthenshire Association of Voluntary Services (CAVS)	On-going	
NZC-23	Work with Ynni Sir Gâr, and others, to deliver and support local renewable energy projects	On-going	

Ref	Action	By When	Progress
Integration and Communication			
NZC-24	Undertake Staff survey to identify how individuals can contribute to the Council's commitment to become a net zero carbon local authority	May 2020	
NZC-25	Incorporate climate change / carbon reduction in Integrated Impact Assessment process to be introduced by Council	TBC	
NZC-26	Support the 'Walk the Global Walk' project in the County's schools to promote awareness of climate change	On-going	
NZC-27	Review action plan following publication of Welsh Government guidance regarding new national carbon reporting framework	Mar 2021	
NZC-28	Publish performance reports on progress towards becoming a net zero carbon local authority by 2030	Annual	

Key:

	Overdue
	Delayed due to on-going delay in publishing Wales carbon reporting guidance (this had been anticipated in April 2020)
	On track
	Completed

COVID-19 and Climate Change

“There are decades where nothing happens; and there are weeks where decades happen.” (quote widely attributed to Vladimir Lenin).

On 12th February 2020 the County Council approved its [Net Zero Carbon \(NZC\) Plan](#).

On 11th March 2020 the World Health Organization declared [COVID-19 a pandemic](#).

On 23rd March 2020 the UK Prime Minister announced a [COVID-19 national lockdown](#).

The impacts of COVID-19 are continuing to unfold.

Impact of COVID-19

[‘Impact of COVID-19 on Carmarthenshire’](#) (September 2020) aims to better understand the community impact of the pandemic as we currently see it. We will be reviewing the key priorities set out in [‘Moving Forward in Carmarthenshire: the next 5 years’](#) (January 2018) to ensure that our short-term focus fully supports recovery from the pandemic and that plans are developed for medium and longer term recovery.

COVID-19 has also impacted on the delivery of our Net Zero Carbon (NZC) Plan both directly and indirectly. These impacts include:

Direct: COVID-19 related restrictions delayed on-site commencement of our Re:fit Cymru (Energy Efficiency) Phase 1 project. Thankfully, works were able to commence in September 2020 (Action NZC-01).

Indirect: As referenced in our NZC Plan, Welsh Government have an ambition for a [carbon neutral public sector by 2030](#) and were to establish Wales-wide methodologies for carbon emissions reporting by the end of 2019/20. Unfortunately, this Guidance has not yet been published and this delay has impacted on the following Actions in the NZC Plan which were dependent on this Guidance being published in April 2020:

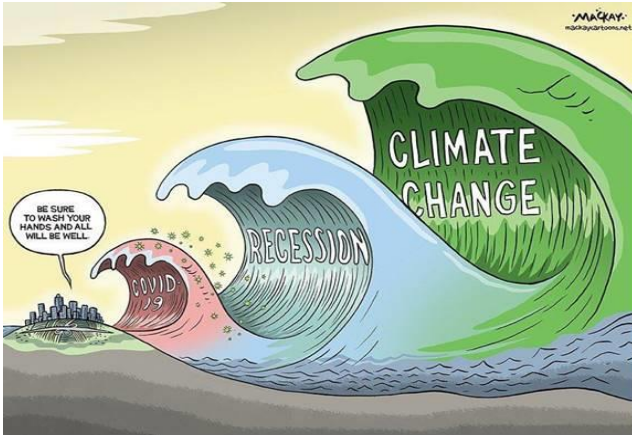
Ref	Action
NZC-06	Develop appropriate carbon reduction target for the Council’s non-domestic buildings as part of annual review of action plan
NZC-07	Develop appropriate carbon reduction target for the Council’s street lighting as part of annual review of action plan
NZC-09	Develop appropriate carbon reduction target for the Council’s fleet mileage as part of annual review of action plan
NZC-12	Develop appropriate carbon reduction target for the Council’s business mileage as part of annual review of action plan
NZC-16	Develop appropriate target for renewable energy generation as part of annual review of action plan
NZC-17	Collaborate with Welsh Government and other ‘early adopter’ Public Bodies to introduce national carbon reporting framework as part of ambition to achieve carbon neutral Welsh public sector by 2030
NZC-27	Review action plan following publication of Welsh Government guidance regarding new national carbon reporting framework

We know that Welsh Government’s reporting methodologies will differ from our current approach, and until we have the specific detail there appears to be little merit in setting targets etc. as these will inevitably have to be reviewed / amended when the Guidance is published. Following the publication of the reporting Guidance, we will review our carbon reporting methodologies and will set targets incorporating the new Guidance. This will not prevent us from progressing all the work outlined in our NZC Plan to reduce our carbon footprint.

Climate Change

"A global crisis has shocked the world. It is causing a tragic number of deaths, making people afraid to leave home, and leading to economic hardship not seen in many generations. Its effects are rippling across the world."

"Obviously, I am talking about COVID-19. But in just a few decades, the same description will fit another global crisis: climate change. As awful as this pandemic is, climate change could be worse." Bill Gates (August 2020).



"Without swift and immediate action, at an unprecedented pace and scale, we will miss the window of opportunity to 'reset' for... a more sustainable and inclusive future."

"[The environmental] crisis has been with us for far too many years - decried, denigrated and denied."

"It is now rapidly becoming a comprehensive catastrophe that will dwarf the impact of the coronavirus pandemic." HRH Prince Charles (September 2020).

"We can treat a crisis like a crisis, as we have seen because of the coronavirus. Treating the climate crisis like a crisis – that could change everything overnight." Greta Thunberg (November 2020).

United Nations Secretary General Antonio Guterres (December 2020) said that climate change has "left our planet broken" and urged nations to make radical changes before it is too late. Mr Guterres also warned that humanity is waging a war on the natural world, describing it as "suicidal". The central objective of the United Nations for 2021 is to build a truly global coalition for carbon neutrality "Every country, city, financial institution and company should adopt plans for transitions to net zero emissions by 2050 and take decisive action now to put themselves on the right path, which means cutting global emissions by 45% by 2030 compared with 2010 levels". (**Note:** The United Nations Environment Programme (UNEP) Report 'Making Peace With Nature' (February 2021) sets out the triple emergency the world is in: the climate crisis; the devastation of wildlife and nature; and, the pollution that causes many millions of early deaths every year).

These words were recently echoed by Ángel Gurría (February 2021), the outgoing head of the Organisation for Economic Co-operation and Development (OECD), who said: "The single most urgent, emergent, immediate risk is to combat COVID-19, and its health, economic and social consequences... But the single most important intergenerational responsibility is to protect the planet. We are on a collision course with nature and we have to change course for future generations."

Public services across Wales have pledged (July 2020) to ensure that decarbonisation action is embedded through:

- Understanding their carbon footprint, in line with guidance for public sector greenhouse emissions reporting
- Agreeing to a set of net zero commitments / pledges for the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 1st – 12th November 2021
- Closely monitoring and reporting their current and future carbon emissions
- Ensuring all Local Authorities have robust, evidence-based net zero action plans in place, as living documents, by March 2021 (**Note:** We approved a Net Zero Carbon on 12th February 2020)
- Work with the new Local Government Decarbonisation Strategy Panel (**Note:** Our Chief Executive is a Member of this Panel).

Can we tackle both climate change and COVID-19 recovery?

“...The more fundamental question is whether it will take a major climate calamity to force the type of global reaction we are seeing with COVID-19 and whether lessons will be learned from this current experience.” Mike Hayes, Global Head of Renewables, KPMG (April 2020).



Example of how we are trying to connect the dots...

Egni Sir Gâr Cyfyngedig [Carmarthenshire Energy Ltd] is the community benefit energy society established by the Council in 2015 to tackle climate change by reducing energy costs, generating clean renewable energy, lowering carbon emissions, and keeping the profits local.

Egni Sir Gâr Cyfyngedig has installed 636 kWp of rooftop solar PV systems on 16 Council owned buildings, and at its 2020 AGM members voted for all interest payment for the year (the surplus from the feed-in-tariff after operating costs but prior to financing costs) to be dedicated to local food banks due to the impact of COVID-19 on the local community. This enabled £42,300 to immediately benefit local foodbanks - the highest payment per megawatt of installed solar for any community benefit society or commercial solar farm in the UK.



Egni Sir Gâr Cyfyngedig won the 'Community' award at the British Renewable Energy Awards 2020 on 26th January 2021.

Outline Approach

Our commitment to become a net zero carbon local authority by 2030 covers the following four key areas:

Non-Domestic Buildings

Non-domestic buildings include any buildings owned by the Council other than Housing. This includes Council offices, depots, leisure centres, libraries, museums, parks, schools, galleries, and theatres.



Street Lighting

Street lighting includes all lighting that you see on the roadside, along streets and within parks and other public spaces that are managed by the Council.

Fleet Mileage

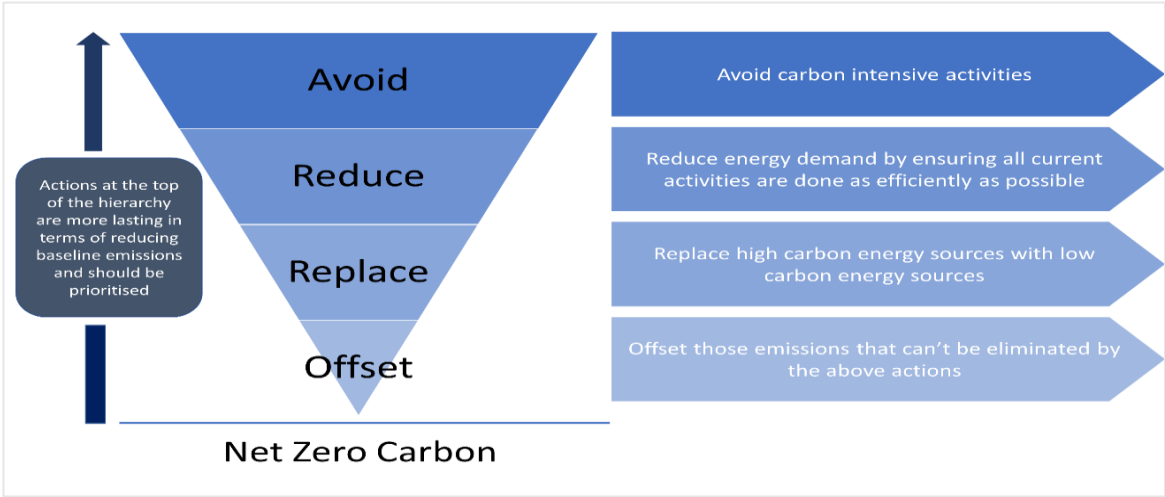
Fleet mileage includes all vehicles that are used to carry-out the Council's services. This includes vehicles such as those used for refuse collections and road gritting plus pool cars.



Business Mileage

Business mileage includes work-related duties undertaken by Council staff in their own cars.

Whilst we are committed to significantly reducing our carbon footprint, we recognise that however energy / carbon efficient our Services become, we will inevitably still have a residual carbon footprint. This situation is acknowledged by the 'Net' in the Net Zero Carbon equation, which enables our residual carbon footprint to be compensated / offset by the generation of renewable electricity and through carbon sequestration (such as through the planting of trees). However, we continue to pursue the carbon mitigation hierarchy approach as we do not consider compensation / offsetting as a 'get out clause' for reducing our carbon footprint:



Section 1: Progress Update

1. Carbon Footprint

1.1 Non-domestic Buildings

Non-Domestic Buildings	2016/17	2017/18	2018/19	2019/20	2019/20 vs 2018/19	
	Result				Progress	% change
Consumption (kWh)	66,808,735	63,690,923	64,857,362	66,407,242 ⁽¹⁾	Declined	+2.4%
Carbon Emissions (tCO ₂ e) ⁽¹⁾	18,923	16,258	14,822	14,443	Improved	-2.6%

Scope: This indicator covers energy consumption (kWh) in all our non-domestic buildings plus corresponding carbon emissions (tCO₂e).

Note:

⁽¹⁾ Whilst consumption (kWh) increased in 2019/20, carbon emissions (tCO₂e) continued to decrease due to a reduction in the emission conversion factor for electricity. The continuing decarbonisation of the electricity distribution network (National Grid) will help to accelerate the reduction of carbon emissions from the Council's consumption of electricity. The performance data quoted in this document uses UK emission conversion factors issued by the Department for Business, Energy, and Industrial Strategy (BEIS) where appropriate. These emission conversion factors are published annually, for example <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019>

Update

Our non-domestic buildings accounted for the highest proportion of our Carbon Footprint - at 70.5% of our total carbon emissions in 2019/20.

Although carbon emissions from non-domestic buildings was found to have decreased, this is largely due to the decarbonisation of the electricity grid. Energy consumption was shown to have increased by 2.4% from 2018/19 to 2019/20.

The increase in consumption in 2019/20 was a direct result of the increase in energy used for heating (weather colder than in 2018/19). The data we report is not degree day corrected i.e. our energy consumption figures for our heating fuels have not been adjusted to factor in the variations in outside air temperature. When this is considered, our total energy consumption reduced by -3.5% from 2018/19 to 2019/20. Also, whilst our gas consumption is metered, our reporting for oil, LPG and kerosene is based on delivery dates which can distort year-on-year comparison should deliveries be near year end. Unlike for electricity, the emission conversion factors for fossil fuels are comparatively static from year to year.

Also, for the first time we have included the use of the biomass boiler in the Tywi Centre, Llandeilo. Although this building is owned by the National Trust, we lease the building and purchase the biomass pellets used in the boiler. This use has not previously been included in our carbon footprint but has been added this year for completeness. This has added an additional 121,615 kWh to our carbon footprint in 2019/20 compared to 2018/19.

Utility	Consumption (kWh)		2018/19 vs 2019/20	
	2018/19	2019/20	kWh	%
Electricity	19,984,610	19,668,100	- 296,510	- 1.5 %
Gas	39,176,883	40,025,303	+ 848,420	+ 2.2%
Oil	3,878,728	4,576,446	+ 697,718	+ 18.0%
LPG	1,398,425	1,355,527	- 42,898	- 3.1%
Kerosene	418,716	660,249	+ 241,533	+ 57.7%
Biomass	0	121,615	+ 121,615	+100 %
Total	64,857,362	66,407,242	+ 1,569,879	+ 2.4 %

We continue to procure as much of our energy supplies as possible through the National Procurement Service (NPS), with 100% of this electricity being from renewable energy. In 2019/20, 63% of this 'green' electricity was generated within Wales (compared to 40% in 2018/19).

Sites included in Re:fit Cymru Phase 1:

Schools

1. Bryn Teg Primary School
2. Coedcae School
3. Glan-y-Mor School
4. Johnstown Primary School
5. Model Church in Wales School
6. Queen Elizabeth High School
7. St. John Lloyd Catholic Comprehensive School
8. Ysgol Gyfun Emlyn
9. Ysgol Gyfun Gymraeg Bro Myrddin
10. Ysgol Gymraeg Llannegnech
11. Ysgol Gynradd Beca
12. Ysgol Gynradd Cynwyl Elfed
13. Ysgol Gynradd Gymunedol Cae'r Felin
14. Ysgol Gynradd Gymunedol Nantgaredig
15. Ysgol Gynradd Llannon
16. Ysgol Gynradd Wirfoddol Penboyr
17. Ysgol y Dderwen

Other

1. Ammanford Library
2. Carmarthen Leisure Centre
3. Dinefwr Bowls Centre
4. Llandovery Swimming Pool
5. Llys y Bryn Care Home / Ty'r Gelli Sheltered Housing Complex
6. Maes Llewelyn Care Home
7. Newcastle Emlyn Leisure Centre
8. Newcastle Emlyn Swimming Pool
9. Parc Dewi Sant Offices
10. Parc Myrddin Offices
11. Ty Parcyrhun Offices
12. Ysgol Dyffryn Aman Leisure Centre
13. Ysgol Maes y Gwendraeth (Drefach Site)

We are currently participating in the Welsh Government supported Re:fit Cymru programme, which aims to carry-out energy efficiency opportunities in non-domestic buildings. Whilst COVID-19 related restrictions delayed on-site commencement of our Phase 1 programme, works were able to commence in September 2020. The majority of Phase 1 is forecasted to be completed by 31st March 2021.

Phase 1 will result in overall carbon savings of 675 tCO₂e per year.

Following the completion of Re:fit Cymru Phase 1 we will seek to identify sites from our portfolio of non-domestic buildings that are suitable to include in a Re:fit Cymru Phase 2 project

Accurate data is critical to planning, monitoring, and reporting progress towards becoming Net Zero Carbon. Accordingly, we are working on rolling out 'smart' and sub metering technology across our portfolio of non-domestic buildings. Our initial focus is on upgrading our electricity meters, of which 206 (38%) are currently smart meters. A major audit of these meters has recently been completed, which will allow us to work with our energy suppliers to roll-out a comprehensive programme of smart meter installation as soon as possible. We aim to also extend our smart metering programme to our gas and water meters, to enable us to comprehensively monitor consumption in our non-domestic buildings.

Some preliminary work has been done to identify the impact of the first COVID-19 lockdown period on electricity use in our non-domestic buildings. Overall, it was found that electricity consumption was 34% less between April - June 2020 when compared to the same period in 2019, equating to a carbon saving of 738 tCO₂e. However, it should be noted that these emissions have effectively been displaced as most of our staff have worked from home since April 2020.

Our top 25 energy consuming / carbon emitting buildings (2019/20):

Rank	Buildings	Consumption (kWh)			Carbon Emissions (tCO ₂ e)			Gross Internal Area (m ²)
		2018/19	2019/20	% Change	2018/19	2019/20	% Change	
1	Ysgol Dyffryn Aman & Leisure Centre	4,440,915	3,877,318	-13%	876	759	-13%	22,444
2	Carmarthen Leisure Centre	4,394,191	3,572,783	-19%	897	731	-19%	8,740
3	Parc Dewi Sant	3,025,423	3,052,836	+1%	656	635	-3%	22,069
4	Llanelli Leisure Centre	2,614,683	2,629,918	+1%	540	528	-2%	5,259
5	Queen Elizabeth High School	1,983,175	2,058,117	+4%	458	446	-2%	15,414
6	Ysgol Maes y Gwendraeth	1,974,011	1,913,451	-3%	436	410	-6%	22,264
7	Llys-y-Bryn Care Home & Day Centre	1,682,011	1,761,272	+5%	338	353	+4%	3,210
8	Ysgol Bro Dinefwr	1,316,097	1,531,499	+16%	304	325	+7%	11,822
9	Y Ffwrnes Theatre	1,348,414	1,478,694	+10%	310	320	+3%	4,719
10	County Hall	1,154,382	1,155,934	0%	278	253	-9%	7,397
11	Dyffryn Taf Comprehensive School	1,240,267	1,184,004	-5%	269	249	-8%	8,887
12	Ysgol Gyfun y Strade	1,098,444	1,094,674	0%	247	236	-5%	10,268
13	Coedcae Comprehensive School	1,133,509	1,104,084	-3%	243	230	-6%	9,162
14	Parc Myrddin	998,532	1,042,108	+4%	221	222	0%	4,897
15	Ysgol Gyfun Bro Myrddin	728,872	784,665	+8%	208	207	0%	7,033
16	Bryngwyn Comprehensive School	910,779	934,911	+3%	208	201	-4%	9,279
17	Awel Tywi Care Home	673,536	733,006	+9%	189	191	+1%	1,366
18	3 Spilman Street, Carmarthen	670,030	703,965	+5%	196	188	-4%	3,620
19	Glan y Mor Comprehensive School	1,507,431	902,649	-40%	301	186	-38%	12,523
20	Ysgol Rhydygors	913,382	934,258	+2%	180	181	0%	3,249
21	Dol y Felin Care Home	675,568	870,084	+29%	141	172	+23%	1,189
22	Pembrey Country Park	401,877	571,294	+42%	120	149	+24%	1,596
23	Caemaen Care Home	728,473	691,221	-5%	162	148	-9%	1,781
24	Ysgol Gyfun Emlyn	509,669	564,552	+11%	145	147	+1%	5,190
25	Maesllewellyn Care Home	503,503	543,635	+8%	146	144	-1%	2,058
Top 25 total		36,627,173	35,690,930	-3%	8,069	7,610	-6%	187,218
Total across all non-domestic buildings		64,857,362	66,407,242	2%	14,822	14,433	-3%	516,870
Above sites as percentage of total		56%	54%		54%	53%		36%

Included in Re:fit Cymru Phase 1 project

Note: The fact that a building appears in our Top 25 merely indicates that it is a relatively large consumer of energy and **not** because it is energy inefficient.

Progress against Actions

NZN-01		
Action	Lead Officer	Timescale
Deliver Re:fit Cymru (Energy Efficiency) Phase 1 project to achieve energy / carbon savings	Head of Property	April 2021
Progress		
Whilst COVID-19 delayed on-site commencement of our Phase 1 programme, works were able to commence in September 2020. The Phase 1 project is forecasted to be complete by 31 st March 2021 and to result in overall carbon savings of 675 tCO ₂ e per year.		
NZN-02		
Action	Lead Officer	Timescale
Develop further phases of Re:fit Cymru (Energy Efficiency) project, or similar, to achieve accelerated energy / carbon savings	Sustainable Development Manager	Ongoing
Progress		
Currently working with WGES and Ameresco to develop a Phase 2 of our Re:fit Cymru (Energy Efficiency) project.		
NZN-03		
Action	Lead Officer	Timescale
Incorporate 'Passivhaus' standard, where appropriate, in new building construction projects	Property Design Manager	Ongoing
Progress		
Property Division are developing a fabric first methodology to new build construction projects to ensure a high level of energy efficiency for new facilities entering the Authority's building portfolio. This is underpinned by a commitment to incorporation of the quality assured Passivhaus Standard.		
Contracts were awarded during 2019/20 for the construction of the following new schools, which have been designed to achieve Passivhaus certification and thus deliver a prescriptive and benefitted performance in terms of energy usage and internal environment:		
<ul style="list-style-type: none"> Gorslas Primary School (currently under construction) Ysgol y Castell (currently under construction) Pembrey Community Primary School (contract awarded) 		
Other non-educational buildings also designed and built to achieve the Standard are:		
<ul style="list-style-type: none"> Carmarthen Archives and Repository Pendine Attractor Project – Eco Hostel building (currently under construction) 		
The Property Division are committed to fostering experiences in designing and constructing to the Passivhaus Standard in the development of an auditable fabric and building performance model that will sit in compliment to installed renewable energy solutions. This model will be flexible in its approach to providing best value on each project, with reference to the capital build programme, forward operational expenditure, and the wider Net Zero Carbon action plan.		
NZN-04		
Action	Lead Officer	Timescale
Continually review and ammend design specifications and briefs to reflect new technologies and energy efficient equipment	Property Design Manager	Ongoing
Progress		
We will continue to explore solutions and methods to maximise renewable energy solutions. A further emphasis will be put on establishing optimised solutions in new buildings with calculated investment against the performance level of the building fabric and aimed to provide best value in terms of capital and operation expenditure. We will continue to explore a flexible model to best suit the needs of the Net Zero Carbon agenda on any given project.		

Examples of how renewable and low energy specifications are being continually developed and adapted include:

- All major new build projects incorporate renewable energy technologies where appropriate with solar photovoltaic (PV) installations being incorporated into many recent Modernising Education Provision 21st Century Schools projects (Ysgol Pum Heol – due for completion during 2020/21) and new housing developments (e.g. Garreglwyd and Dylan sites).
- The new housing development currently under construction at Glanmor Terrace, Burry Port includes battery storage to maximise the use of the electricity generated by the solar PV installed on each dwelling. Electric vehicle charge points are also being provided for each property. Also features Mechanical Ventilation Heat Recovery (MVHR) units in each dwelling.
- Air Source Heat Pumps have been installed to provide heating at each of the flats and communal areas at Llys yr Ysgol Sheltered Housing Complex. These heat pumps replaced inefficient and expensive to run electric storage heaters at the Complex. Air Source is currently being explored on a larger scale in respect of the new development for Ysgol Heol Goffa
- Specifications for all new school developments now include for the installation of Electric Vehicle Charging Points.
- LED lighting now being specified as standard.
- SolarEdge technology specified for all new solar PV systems which allows web access to generation data that allows more detailed real-time data for the analysis of electricity generation.

NZC-05		
Action	Lead Officer	Timescale
Extend 'smart' and sub-metering technology to ensure accurate and timely capture of energy consumption data.	Various	Ongoing
Progress		
We currently have 206 smart electricity meters installed, which is 38% of our total meter stock. A major audit of our meters has recently been completed, which will allow us to work with our energy suppliers to roll-out a comprehensive programme of smart meter installation as soon as possible. We will then focus on extending smart meters to our gas and water consumption.		
NZC-06		
Action	Lead Officer	Timescale
Develop appropriate carbon reduction target for the Council's non-domestic buildings as part of annual review of action plan	Sustainable Development Manager	March 2021
Progress		
Welsh Government were to establish Wales-wide methodologies for carbon emissions reporting by the end of 2019/20. Unfortunately, this Guidance has not yet been published. This delay has impacted on this Action, and others, as it was dependent on the Guidance being published in April 2020. Welsh Government's reporting methodologies will differ from our current approach, but until we have the specific detail there appears to be little merit in setting targets etc as these will inevitably have to be reviewed / amended when the Guidance is published. Following the publication of the reporting Guidance, we will review our carbon reporting methodologies and will develop an appropriate carbon reduction target for the Council's non-domestic buildings that incorporates the new Guidance.		

1.2 Street Lighting

Street Lighting	2016/17	2017/18	2018/19	2019/20	2019/20 vs 2018/19	
	Result				Progress	% change
Consumption (kWh)	5,718,531	4,873,979	4,202,381	3,925,149	Improved	-6.6%
Carbon Emissions (tCO ₂ e)	2,569	1,874	1,291	1,088	Improved	-15.7%

Scope: This indicator covers energy consumption (kWh) in all our Street Lighting plus corresponding carbon emissions (tCO₂e).

Update

Street Lighting makes up 6% of our carbon footprint, with 1,088 tCO₂e emitted in 2019/20. This is a decrease of 16% from 2018/19.

We have completed the conversion of almost 100% of our 20,000 streetlights to low energy light-emitting diode (LED) lighting, funded by the Welsh Government's interest-free Wales Funding Programme. This has resulted in a 33% decrease in electricity consumption from street lighting over the past five years.

In 2020, we also completed a project to upgrade 5,000 community lighting units to incorporate LED lighting. The initiative which included 'invest to save' funding for Community Councils, reduced energy consumption and improved lighting quality in local communities.

Progress against actions

NZC-07		
Action	Lead Officer	Timescale
Develop appropriate carbon reduction target for the Council's street lighting as part of annual review of action plan	Public Lighting Engineer	March 2021
Progress		
Similar to Action NZC-06... Following the publication of the Wales reporting Guidance, we will review our carbon reporting methodologies and will develop an appropriate carbon reduction target for the Council's street lighting that incorporates the new Guidance. However, as we have completed a comprehensive upgrade of street lighting to LED technology, and reviewed operational hours, little more can currently be done to further reduce annual emissions.		

1.3 Fleet Mileage

Fleet Mileage	2016/17	2017/18	2018/19	2019/20	2019/20 vs 2018/19	
	Result				Progress	% change
Mileage (Miles)	5,127,150	5,121,289	5,293,249 ⁽¹⁾	5,154,668	Improved	-2.6%
Diesel Used (Litres)	1,416,276	1,441,751	1,434,583	1,419,336	Improved	-1.1%
Carbon Emissions (tCO ₂ e)	3,790	3,852	3,856	3,814	Improved	-1.1%

Scope: This indicator covers vehicles in the Council's fleet that obtain fuel from bunkered diesel stores in Council depots and pool vehicles.

Note:

⁽¹⁾ This figure has been updated since last year to correct for incorrect mileage entries.

Update

Fleet Mileage makes up 19% of our carbon footprint, resulting in 3,814 tonnes of tCO₂e emitted in 2019/20. This is a decrease of 1.1% from last year.

Currently, eight of our fleet are electric vehicles comprising two new Renault Zoe and six older fleet pool cars i.e. Peugeot iOn (four) and Mitsubishi i-MiEV (two).

We have also submitted grant bids to replace five diesel vehicles with EVs.

Breakdown of Council fleet size and associated annual mileage:

Fleet	2018/19		2019/20	
	Fleet size	Annual mileage	Fleet size	Annual mileage
Heavy Commercial – Refuse Collection Vehicles (RCVs) and Resource Recovery Vehicles (RRVs)	43	378,482	38	378,482
Heavy Commercial – Other (every else over 3.5 tonnes)	73	51,6705	64	518,481
Welfare Minibuses (Wheelchair Adapted)	33	567,724	36	516,742
Minibuses (Standard)	22	128,111	26	167,237
Light Commercial (Vans – all sizes up to 3.5 tonnes)	321	2,847,111	325	2,787,839
Fleet Cars (including pool cars and people carriers)	92	855,116	72	785,887
Total	584	5,293,249	561⁽¹⁾	5,154,668

Note:

⁽¹⁾ Our Fleet changes during the year. The Total is for ALL vehicles that were on fleet that year and includes swap-out vehicles and short term hired vehicles. On 31st March 2020 the number of vehicles in the fleet was 510.

Progress against Actions

NZC-08		
Action	Lead Officer	Timescale
Review the most appropriate fuel powered vehicles for each of the Council's services.	Fleet Manager	Ongoing
Progress We are working closely with WEGS on a review of our vehicle fleet, with the aim of planning for a transition to an Ultra-Low Emission Vehicle (ULEV) fleet. The review will cover all aspects of our road transport operations, as well as the supporting Electric Vehicle Charging Infrastructure (EVIC) required to support a ULEV fleet. This review is due to be complete by 31 st March 2021.		
NZC-09		
Action	Lead Officer	Timescale
Develop appropriate carbon reduction target for the Council's fleet mileage as part of annual review of action plan	Fleet Manager	March 2021
Progress WGES are currently undertaking a ULEV fleet review to help reduce the carbon footprint of our fleet and business mileage. Following the outcomes of this work, a carbon reduction target for our fleet mileage will be established.		

1.4 Business Mileage

Business Mileage	2016/17	2017/18	2018/19	2019/20 ⁽¹⁾	2019/20 vs 2018/19	
	Result				Progress	% change
Staff Cars (Grey fleet – mileage reimbursed)						
Mileage (miles)	4,186,640	3,948,586	3,846,615	3,971,513	Declined	+3.2%
Carbon Emissions (tCO ₂ e)	1,260	1,159	1,118	1,132	Declined	+1.2%

Scope: This indicator covers work-related mileage undertaken by Council staff in their own cars.

Note:

⁽¹⁾ The increase in mileage (miles) in 2019/20 is due to the inclusion of travel undertaken for Domiciliary Care due to staff transferring over from care provider Allied.

Update

As part of the ULEV fleet review, WGES are looking at both our pool car provision and at staff-owned vehicles ('grey fleet') that are reimbursed by a mileage payment scheme. The outcomes will include a Fleet profile, which will outline recommendations for dealing with grey fleet mileage and transitioning it to ULEV vehicles.

New EV charging sites have been installed for public use across the County, including 26 Fast Charging sites (7-22kW), 3 Rapid Charging sites (50kW) and one Ultra Rapid (150kW) site. A further 10 Fast Charging sites and 2 Rapid charging sites are also planned. This expansion of our EV charging infrastructure should encourage greater use of electric pool cars which are currently underused due to the lack of charging facilities for longer journeys. A map of EV charging sites can be viewed online at [Zap Map](#).

As part of a staff travel project, two new electric pool cars have been added at Ty Elwyn, primarily for the use of Children's Services, but available to all staff in the building. Fast charging points have also been installed at the site to support their use.

Due to the COVID-19 pandemic, many of our staff are now working from home resulting in a significant decrease in work-related travel. This has resulted in a reduction in business mileage during April-June 2020, with a decrease of 45% compared to the same period in 2019. This equates to a carbon saving of 139 tCO₂e. It is likely

that a continuation of staff home working, as well as changes in working practices such as an increase in video meetings and online communication, will see a reduction in business mileage in the longer term.

Progress against Actions











NZC-10		
Action	Lead Officer	Timescale
Undertake a review of the Council's pool cars to identify opportunities for carbon reduction	Head of Transportation and Highways	TBC
Progress		
WGES are currently undertaking a fleet review with a view of reducing the carbon footprint of our fleet and business mileage. Part of this work will involve an assessment of our pool cars and opportunities for the decarbonisation of our fleet.		
NZC-11		
Action	Lead Officer	Timescale
Finalise electric vehicle strategy for the County	Transport Strategy and Infrastructure Manager	TBC
Progress		
An electric vehicle strategy for the County is yet to be finalised. Despite this, progress continues to be made with the majority of short term objectives completed including the installation of 26 new electric vehicle charging points around the County and particularly at destination points to enable journeys by electric vehicles. Further we have been awarded funding by Welsh Government to install a super-fast charging hub at Cross Hands to be completed by 31 st March 2021 - believed to be the first of its kind in Wales.		
NZC-12		
Action	Lead Officer	Timescale
Develop appropriate carbon reduction target for the Council's business mileage as part of annual review of action plan	Head of Transportation and Highways	March 2021
Progress		
WGES are currently undertaking a fleet review with a view of reducing the carbon footprint of our fleet and business mileage. The outcomes of this work will allow us to set meaningful targets for carbon reduction for business mileage.		

2. Carbon Offsetting / Renewable Energy

2.1 Overview

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

An example of what would be required to compensate / offset the entirety of our 2019/20 carbon footprint with renewable energy is shown here:

Carbon Footprint 2019/20	Renewable Energy Generation				=	Net Zero Carbon
Non-Domestic Buildings	Wind Turbines or Solar PV panels					
Carbon emissions (tCO ₂ e) 14,443	44		or	189,398		= 0 tCO ₂ e
Street Lighting						
Carbon emissions (tCO ₂ e) 1,088	3		or	14,267		= 0 tCO ₂ e
Fleet Mileage						
Carbon emissions (tCO ₂ e) 3,814	11		or	50,015		= 0 tCO ₂ e
Business Mileage						
Carbon emissions (tCO ₂ e) 1,132	3		or	14,844		= 0 tCO ₂ e
TOTAL						
Carbon emissions (tCO ₂ e) 20,477	62 ≡ 31.0 MW		or	268,524 ≡ 67.1 MW		= 0 tCO ₂ e

Comparators:

- Equivalent number of 500 kWp wind turbines (~327 tCO₂e/year | ~1,180 MWh/year) (capacity of wind turbine at Nant y Caws)
- Equivalent number of individual 250 W solar PV panels (~0.07626 tCO₂e/year | ~275 kWh/year)

2.2 Renewable Energy

Renewable Energy Generation	2016/17	2017/18	2018/19	2019/20	2019/20 vs 2018/19	
	Result				Progress	% change
Solar PV						
Installed Capacity (kWp)	1,153	1,153	1,193	1,193	No Change	0%
Electricity generation (kWh)	670,401	937,330	979,071	997,480	Improved	+1.9%
Equivalent Carbon Savings (tCO ₂ e)	301	360	301	277	Declined	-8.0%

Note: Whilst electricity generation increased in 2019/20, carbon savings (tCO₂e) decreased due to the reduction in the emissions conversion factor for electricity.

Update

Over recent years, we have sought to significantly increase the amount of renewable electricity we generate but continue to be frustrated by the limited capacity of the local electricity distribution network (National Grid). Recent discussions with Western Power Distribution have established that there is little additional capacity available on the local electricity distribution network in Carmarthenshire for large-scale renewable energy

Sites identified for solar PV installation under our Re:fit Cymru Phase 1 project:

Site	kWp
Carmarthen Leisure Centre	123
Coedcae Comprehensive School	40
Johnstown Primary School	12
Llandovery Swimming Pool	50
Maes Llewellyn Care Home	51
Model Church in Wales School	14
Parc Dewi Sant Offices	134
Ysgol Gymraeg Llangennech	12
Ysgol Gynradd Gymunedol Nantgaredig	12
Ysgol Gynradd Llannon	12
Total	460

installations, without the requirement for significant reinforcement work. Unfortunately, this is beyond our direct control as requires a combination of major infrastructure works plus balancing local consumption, generation, and storage. The cost for reinforcement work would have to be met by prospective developers and could take several years to complete. Realistically, therefore, to achieve our net zero carbon commitment by 2030, we are limited to small-scale renewable energy schemes and to 'export-limited schemes' where all generated electricity is consumed on-site without export to the local distribution network.

We have solar PV installed on 35 of our non-domestic buildings, with an overall installed capacity of over 1.15 megawatts. Solar PV is being installed at a further ten sites as part of our Re:fit Cymru Phase 1 project, increasing our total installed capacity by 38% to 1.65 MW.

In addition, we are discussing a possible power purchase arrangement with Hywel Dda University Health Board linked to a proposed 500 kWp solar farm at their Hafan Derwen site – some 50% of the generated electricity would be available to supply our adjoining Parc Dewi Sant offices (we were unable to construct a similar facility on land at our Parc Dewi Sant site due to Planning restrictions).

We are currently actively exploring the following options:

In Carmarthenshire

1. Installation of small-scale renewable energy schemes where possible, including 'export-limited schemes' where generated electricity is consumed on-site without export to the local distribution network.
2. Investment in suitable, existing renewable energy sites when opportunities arise.
3. Investment in suitable new sites with other developers where the scale of the project makes reinforcement costs viable.

Outside Carmarthenshire

4. Investment in suitable existing renewable energy sites when opportunities arise.
5. Investment in suitable new sites with other developers.

Progress against Actions

NZC-13		
Action	Lead Officer	Timescale
Work with Welsh Government Energy Service to explore and deliver opportunities for large scale renewables	Sustainable Development Manager	Ongoing
Progress We continue to work with WGES to explore and deliver large-scale renewable energy projects. WGES are currently reviewing our land holdings to determine feasibility for renewable energy. We are also actively pursuing other opportunities, including a possible power purchase arrangement with Hywel Dda UHB linked for a proposed 500 kW solar farm at their Hafan Derwen site – some 50% of the generated electricity would be available to supply our adjoining Parc Dewi Sant offices.		
NZC-14		
Action	Lead Officer	Timescale
Work with National Procurement Service (NPS) to support greater procurement of energy from locally generated renewable energy projects	Sustainable Development Manager	Ongoing
Progress 100% of the electricity we procure from NPS is from renewable energy. In 2019/20, 63% of this 'green' electricity was generated within Wales (compare to 40% in 2018/19).		
NZC-16		
Action	Lead Officer	Timescale
Develop appropriate target for renewable energy generation as part of annual review of action plan	Strategic Asset Manager	March 2021
Progress Similar to Action NZC-06 - Following publication of the Wales reporting Guidance, we will review our carbon reporting methodologies and will develop an appropriate target for renewable energy generation. This will also be informed by discussions with Welsh Government and Western Power Distribution regarding the capacity of the local electricity distribution network.		

2.3 Green Infrastructure

Update

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services has shown the strong interrelationship between climate change, the loss of biodiversity and human wellbeing. In developing our Net Zero Carbon Plan, we will consider the impact on Carmarthenshire's biodiversity and consider how the natural environment on our Estate can help with mitigation and adaption to climate change. We cannot solve the threats of human-induced climate change and loss of biodiversity in isolation. We either solve both or we solve neither.

The Carmarthenshire Nature Recovery Plan which we facilitate identifies climate change as a major risk to our biodiversity but also as a way of mitigating the impacts from its effects.

Several projects already help with our Net Zero Carbon targets including the Caeau Mynydd Mawr project and the Carmarthenshire Bogs project. Future work will look at how we manage our land within our Estate as Country Parks, Local Nature Reserves plus amenity grasslands, land around housing, coastal saltmarshes etc. could all contribute to achieving our Net Zero Carbon targets and contribute to a more resilient natural environment.

We have secured funding from the Welsh Government Enabling Natural Resources and Wellbeing (ENRaW) scheme to plant 70 mixed species trees to enhance the treescape on our Parc Dewi Sant site. The planting of the trees has been delayed due to restrictions caused by COVID-19 however it is envisaged that this will be undertaken by 31st March 2021.

We have also received funding from the Welsh Government Targeted Regeneration Investment (TRI) programme to deliver Green Infrastructure (GI) projects in two TRI focus areas - Llanelli and Ammanford. These projects are currently being delivered, with a 'green wall' to be installed at Llanelli Library, and a 'rain garden' at Carregaman Car Park in Ammanford.

As part of the Revised Local Development Plan, a Green Infrastructure Assessment has been undertaken which has identified and mapped green assets across the County. To build on this work, we are now looking to commission consultants to produce a Green Infrastructure Strategy, which will build on the mapping work by identifying priority areas and specific interventions. The revised Local Development Plan deposit plan also includes a new Green Infrastructure Networks policy, which seeks to ensure developers protect and enhance assets on development sites.

The equivalent area of forested land required to offset our carbon footprint has been estimated using Welsh Government's draft carbon reporting guidance. This presumes that the forested land planted is in place of grass land. For context, we own ~6,500 ha of land not including housing. This analysis will be refined when the Wales reporting guidance is published.

Carbon Footprint 2019/20 (tCO ₂ e)		Equivalent Offsetting Requirement		
		Forested Land (ha)		
		2018/19	2019/20	% change
Non-domestic Buildings	14,443	24,099	23,482	-2.6%
Street Lighting	1,088	2,099	1,769	-15.7%
Fleet Mileage	3,814	6,269	6,201	-1.1%
Business Mileage	1,132	1,818	1,840	+1.3%
TOTAL	20,477	34,285	33,293	-2.9%

Progress against Actions

NZC-15		
Action	Lead Officer	Timescale
Explore the feasibility of tree-planting and other such measures, on Council controlled land to contribute towards carbon offsetting	Strategic Asset Manager	Ongoing

Progress
Planting of 70 mixed species trees to be implemented at Parc Dewi Sant. Projects funded by Welsh Government to increase urban green infrastructure are also being implemented in Llanelli and Ammanford, with further funding having been awarded for feasibility studies in Newcastle Emlyn and Carmarthen.

3. Collaboration

3.1 Working with Welsh Government

Progress against Actions

NZC-17		
Action	Lead Officer	Timescale
Collaborate with Welsh Government and other 'early adopter' Public Bodies to introduce carbon reporting as part of the ambition to achieve a carbon neutral Welsh public sector by 2030.	Sustainable Development Manager	June 2020
Progress		
We collaborated with Welsh Government and other 'early adopter' Public Bodies and had anticipated that reporting guidance would be published in April 2020; however, the Guidance has not yet been published. Once the Guidance is published we will review our reporting methodologies.		

3.2 Working with Carmarthenshire Public Services Board / Swansea Bay City Deal partners

We provide the Secretariat for the Carmarthenshire Public Services Board and the Swansea Bay City Deal.

Progress against Actions

NZC-18		
Action	Lead Officer	Timescale
Work with the Carmarthenshire Public Services Board (PSB) Healthy Environment Delivery Group to undertake a Climate Change and Environmental Risk Assessment for the County.	Corporate Policy and Partnership Manager	Ongoing
Progress		
In July 2019, Natural Resources Wales (NRW) commissioned AECOM to carry-out a severe weather assessment to gather information of people's experiences of local severe weather events and to identify future priorities for addressing the impacts. This assessment focussed on Carmarthenshire, Pembrokeshire and Ceredigion. The report identified a number of communities most at risk from severe weather events, including Llanelli, Kidwelly, Pibwrlwyd and Newcastle Emlyn in Carmarthenshire.		
Subsequently, in February 2020, NRW commissioned Netherwood Sustainable Futures to deliver this project within two at-risk pilot communities - Newcastle Emlyn and Fishguard (Pembrokeshire) - with the specific brief to:		
<ul style="list-style-type: none"> Identify and engage with key stakeholders to develop a plan for building climate resilience Document the process and findings in a report by April 2021, specifying recommendations by focusing specifically on outcomes and solutions, as well as identifying a path for progression. 		
The project was paused before any community engagement due to COVID-19 and restarted in July 2020. An online approach to engage with people was agreed and during August, people's views started to be gathered. The research has collated information on people's past experiences - changes to the seasons, warmer and wetter winters, changes in the natural world and some specific impacts in the area – and also their concerns about what's happening now to the physical environment because of climate change, the town's collective response to severe weather and practical steps to cope.		

An online public meeting was held on 29th September 2020 for residents, groups, businesses and local agencies in Newcastle Emlyn to find out more about risks such as impacts on the local economy, risks to the townscape and its infrastructure or recognising the risk to particular groups or neighbourhoods. The research has shown that people feel the town needs to plan forward for a changing climate. There will be further consideration of the report's recommendations by the PSB's Healthy Environment Delivery Group.

Nzc-19		
Action	Lead Officer	Timescale
Work with PSB partners to identify and develop opportunities for collaboration regarding carbon reduction	Sustainable Development Manager	Ongoing
Progress		
A planned workshop to further develop joint working amongst PSB partners was cancelled due to COVID-19. This will now be progressed with our PSB partners and an invitation to participate extended to other PSBs in the Region. We are in discussion with PSB partners Hywel Dda UHB about a possible power purchase arrangement linked to a proposed 500 kWp solar farm at their Hafan Derwen site – some 50% of the generated electricity would be available to supply our adjoining Parc Dewi Sant offices.		
Nzc-20		
Action	Lead Officer	Timescale
Work with Welsh Government and Swansea Bay City Region partners to establish a Regional Energy Plan for South West Wales	Head of Regeneration	Ongoing
Progress		
The existing South West Regional Directors Group is providing the lead for the Regional Energy Strategy. An energy sub group has recently been established, chaired by Pembrokeshire County Council's Director of Development. The next steps are to carry-out stakeholder mapping and engagement. This will be followed by energy vision setting, updating energy vision scenario modelling, economic analysis relating to the updated scenario modelling and finally strategy development.		

3.3 Working with experts from the private and 3rd sectors

Progress against Actions

Nzc-21		
Action	Lead Officer	Timescale
Work with the Council's contractors to explore innovative approaches to carbon reduction	Various	Ongoing
Progress		
We are currently working to explore innovative approaches to carbon reduction with a range of organisations, including: <ul style="list-style-type: none"> the Active Building Centre regarding extending the Cross Hands Industrial Estate the Welsh School of Architecture, Cardiff University to understand and model our retrofit programme to inform our housing decarbonisation strategy and future investment programmes across our entire housing stock. 		
Nzc-22		
Action	Lead Officer	Timescale
Participate in the Carmarthenshire 3 rd Sector Environment Network established by Carmarthenshire Association of Voluntary Services (CAVS)	Various	Ongoing
Progress		
The Carmarthenshire 3 rd Sector Environment Network was formed in September 2019. During 2020/21, three meetings were held. The Network is open to any third sector organisations or community groups, involved with, or concerned by environmental issues, to share information and to collaborate to achieve common goals. The meetings also allow groups to follow the progress made by the Healthy Environment PSB delivery Group in the implementation of the Carmarthenshire Well-being Plan.		

One of the main points of discussion this year was the future focus, aims and potential of the network. The two main areas highlighted were to raise awareness and to support 3rd sector groups and their service users to act around the following environmental messages:

- Climate Change threat - the need to change behaviour and benefits of doing so
- Climate Change effects - the need to prepare
- Safeguarding the Environment - the need and benefits
- Health and Well-being - the benefits of being outdoors in nature

In February 2021 the [Green Stories Campaign](#) was started as a first step in raising awareness of good practice happening - sharing good examples of what is already being achieved by groups locally and hence also highlighting the environmental issues.

NZC-23

Action	Lead Officer	Timescale
Work with Ynni Sir Gâr, and others, to deliver and support local renewable energy projects	Sustainable Development Manager	Ongoing
Progress		
Ynni Sir Gâr have been funded under the Welsh Government Rural Development Fund LEADER programme to identify and explore the feasibility of small-scale, community energy projects in the County. The project will work collaboratively with our Ten Towns initiative. We are also supporting Ynni Sir Gâr to deliver a project at Ysgol Bro Dinefwr to install additional solar PV, plus EV charging points.		

4. Integration and Communication

Update

As advised by our Environmental and Public Protection Scrutiny Committee, we have produced a [Young Person's version of the NZC Plan](#). This was presented at the Walk the Global Walk virtual model UN climate change conference for schools in June 2020 and has been circulated to the schools involved.

We have also added a [Net Zero Carbon page](#) on our website to help improve communication and to update on progress.

We have been working with our Corporate Policy team to integrate the aims of the Net Zero Carbon Plan and the wider climate emergency into a new Integrated Impact Assessment Tool. This tool will be used to assess the impact of Council plans, policies, and programmes to establish both positive and negative impacts against a range of legislative requirements.

Progress against Actions

NZC-24		
Action	Lead Officer	Timescale
Undertake a staff survey to identify how individuals can contribute to the Council's commitment to become a net carbon zero local authority	Media and Marketing Manager	May 2020
Progress		
This was put on hold as an action due to communications around COVID-19 taking priority. We aim to revisit the staff survey in the coming months.		
NZC-25		
Action	Lead Officer	Timescale
Incorporate climate change / carbon reduction into Integrated Impact Assessment process to be introduced by the Council	Corporate Policy and Partnership Manager	TBC

Progress												
The integrated impact assessments are to be completed and will include a section in which climate change and carbon reduction impacts can be identified.												
NZC-26												
Action	Lead Officer	Timescale										
Support the 'Walk the Global Walk' project in the County's schools to promote awareness of climate change	Officer for International School Linking	March 2021										
Progress												
Despite restrictions due to COVID-19, we continued to support Walk the Global Walk including participating in a virtual model UN climate change conference for schools. 28 pupils across six different countries participated and lively debate was had around the topics of climate change, plastic waste and our Net Zero Carbon Plan. The event was attended by both Members and Officers. Following this event, the students agreed the 'Carmarthenshire Global Goalkeepers Climate Action Manifesto' which was launched at the Wales Youth Climate Summit 2020 held on 8 th December 2020 - https://www.youtube.com/watch?v=rtigy5zyMn8												
<div><div><div><h3>Maniffesto Gweithredu dros yr Hinsawdd, Gôl-geidwaid Byd-eang Sir Gaerfyrddin</h3><p>Crëwyd y maniffesto hwn ar gyfer Nod Datblygu Cynaliadwy 13 Gweithredu dros yr Hinsawdd gan Gôl-geidwaid Byd-eang Sir Gaerfyrddin trwy'r prosiect Walk the Global Walk. Daethpwyd i'w argymhellion trwy drafodaethau â Gôl-geidwaid Byd-eang o wledydd partner, cynghorwyr a swyddogion o Gyngor Sir Gaerfyrddin, athrawon, cynrychiolwyr o'r Gyngor Iauencid, Dolen Cymru Lesotho a Chawd Cymru'n Dda. Rydym ni, y rhai sydd wedi llofnodi bod ac sy'n cynrychioli pobl ifanc Sir Gaerfyrddin, wedi dod yn ymwybodol iawn o'r peryglon i'n cenhedlaeth ni ac i genedlaethau'r dyfodol a achosir gan ddiffyg gweithredu yn wyneb newid yn yr hinsawdd.</p><p>Mae'r argyfwng hinsawdd eisoes yn effeithio ar filiynau ledled y byd, gan daro'r rhai sydd â'r adnoddau lleiaf i ddellio ag ef yn galetaf. Rydym yn gwneud newidiadau i'n ffordd o fyw fel unigolion ac yn arwain gweithredoedd yn ein bysgollon a'n cymunedau i addasu i newid yn yr hinsawdd a'i liniau. Fodd bynnag, os am gael effaith ystyrlon, ni allwn wneud hyn ar ein pennau ein hunain. Felly gofynnwn i Gyngor Sir Gaerfyrddin addo ei ymrwymiad i weithredu dros yr hinsawdd trwy:</p><ol style="list-style-type: none">1. Hyrwyddo datblygiad manau gwyrdd a chefnogi plannu rhywogaethau o goed brodorol, o leiaf 10 coeden ym mhob ysgol, neu gymuned ysgol os nad yw tir yr ysgol yn addas, a sicrhau eu diogelwch parhaol2. Annog a chefnogi trafniadaeth ddiogel a chynaliadwy ar gyfer ysgollon gan gynnwys rhannu ceir, cerdded a beicio e.e. darparu llochesi beic.3. Sefydlu corff ymgynghori ar weithredu dros yr hinsawdd sy'n cynnwys grŵp cynrychiadol o bobl ifanc, cynghorwyr, swyddogion cyngor a busnesau lleol sy'n cyfarfod bob 3 mis i sicrhau cynnydd ar y maniffesto hwn4. Darparu cefnogaeth i wledydd datblygol i frwydro yn erbyn effaith newid yn yr hinsawdd e.e. trwy gefnogi menter Maint Cymru5. Cefnogi creu gerddi mewn ysgollon a chymunedau lleol i ddarparu bwyd ac annog blaenwriaeth e.e. darparu hadau a gwrtaith heb fawn6. Dyblu defnydd y cyngor o gerbydau hybrid a thrydan a gosod pwyntiau gwefru trydan mewn ysgollon cynradd ac uwchradd prifodol erbyn Ionawr 20227. Cydwethio ag ysgollon a chyflenwyr i lallhau'r defnydd o blastig un defnydd mewn ysgollon erbyn Ionawr 20228. Sicrhau bod gan bobl ifanc y gefnogaeth sydd ei hangen arnynt i gyflawni gweithredoedd hinsawdd perthnasol<p>Wedi ei gymeradwyo gan gynrychiolwyr o Gyngor Sir Gaerfyrddin ac o Gyrrff Anllywodraethol: Endorsed by representatives of Carmarthenshire County Council and NGOs:</p><p>• Gareth Morgans - Director of Education • Cefin Campbell - Executive Board Member for Communities and Rural Affairs • Kendal Davies - Sustainability Manager • Rebecca Stone - Carbon Reduction Officer • Polly Seton - International School Linking Officer • Bethan Evans Phillips - Eco Schools Officer, Keep Wales Tidy • Mandy Ballett & Sharon Flint - Education Officers, Dolen Cymru Lesotho</p></div><div><div><div><h3>Climate Change</h3></div><div><h3>Carmarthenshire Global Goalkeepers Climate Action Manifesto</h3><p>This manifesto for Sustainable Development Goal 13 Climate Action was created by Carmarthenshire's Global Goalkeepers through the Walk the Global Walk project. Its recommendations were arrived at through discussions with Global Goalkeepers from partner countries, councillors and council officers from Carmarthenshire County Council, teachers, representatives from the Youth Council, Dolen Cymru Lesotho and Keep Wales Tidy.</p><p>We, the undersigned, representing the young people of Carmarthenshire, have become acutely aware of the dangers to our own generation and to future generations posed by inaction in the face of climate change. The climate emergency is already affecting millions around the world, hitting hardest those with the least resources to deal with it.</p><p>We are making lifestyle changes as individuals and leading actions in our schools and communities to adapt to and mitigate climate change. However, if there is to be a meaningful impact, we cannot do this alone. So we ask that Carmarthenshire County Council pledge its commitment to climate action by:</p><ol style="list-style-type: none">1. Promote development of green spaces and support native tree species planting of a minimum of 10 trees in each school, or school community if school grounds are unsuitable, and ensure their ongoing protection2. Encourage and support safe, sustainable school transport including car-pooling, walking and cycling e.g. providing bike shelters3. Set up a climate action consultation body consisting of a representative group of young people, councillors, council officers, and local businesses which meets every 3 months to ensure progress on this manifesto4. Provide support for developing countries to combat impact of climate change e.g. by supporting the Size of Wales initiative5. Support the development of gardens in schools and local communities to provide food and encourage biodiversity e.g. provide seeds and peat-free compost6. Double the council's use of hybrid and electric vehicles and install electric charging points in appropriate primary and secondary schools by January 20227. Work together with schools and suppliers to reduce single use plastic in schools by January 20228. Ensure young people have the support they need to carry out relevant climate actions</div></div></div></div></div>												
<div><div><div><h3>Wedi ei llofnodi gan Gôl-geidwaid Byd-eang ac Athrawon o: Signed by Global Goalkeepers and Teachers from:</h3><table><tr><th>Ysgol Dyffryn Aman</th><th>Ysgol Bro Dinefwr</th><th>Coedcae School</th><th>Ysgol Glan-y-Môr</th><th>Ysgol Gyfun Y Strade</th></tr><tr><td>Sam Barrett Magda Smith Gareth Holmes (Teacher)</td><td>Milly Jones Isabel Edwards Carol Owen (Teacher)</td><td>Lily Evans, Chloe Barlow, Rhys Thomas, Sophia Kwan Victoria Colbourne (Teacher)</td><td>Liberty Brown Thomas Ashby Sophie Bowen (Teacher)</td><td>Ieuan Davies Katie George Sion Acclaioli (Teacher)</td></tr></table><p>Queen Elizabeth High School - Anwen Skinner, Carmarthenshire Youth Council</p></div><div><div></div><div></div><div></div></div></div></div>			Ysgol Dyffryn Aman	Ysgol Bro Dinefwr	Coedcae School	Ysgol Glan-y-Môr	Ysgol Gyfun Y Strade	Sam Barrett Magda Smith Gareth Holmes (Teacher)	Milly Jones Isabel Edwards Carol Owen (Teacher)	Lily Evans, Chloe Barlow, Rhys Thomas, Sophia Kwan Victoria Colbourne (Teacher)	Liberty Brown Thomas Ashby Sophie Bowen (Teacher)	Ieuan Davies Katie George Sion Acclaioli (Teacher)
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NZC-27												
Action	Lead Officer	Timescale										
Review action plan following the publication of Welsh Government guidance regarding new carbon reporting framework	Sustainable Development Manager	March 2021										
Progress												
Guidance from Welsh Government on carbon reporting was due to be published in April 2020, however this has been delayed. Once the Guidance is published we will work closely with Welsh Government to adopt the new reporting methodologies.												

NZC-28		
Action	Lead Officer	Timescale
Publish performance reports on progress towards becoming a net zero carbon local authority by 2030	Sustainable Development Manager	Annual
Progress		
This report is the first annual update on progress towards become a net zero carbon local authority by 2030.		

Section 2: Future Actions

Many of our current Actions are ongoing and will continue throughout the lifetime of the NCZ Plan. We will continue to review and report progress against the following ongoing Actions in each annual review of the NZC Plan:

Ref	Action	Lead Officer
Carbon Footprint – Non-domestic buildings		
NZC-03	Incorporate the 'Fabric First' design criteria, where appropriate, in new building construction projects	Property Design Manager
NZC-04	Continually review and amend design specifications and briefs to reflect new technologies and energy efficient equipment	Property Design Manager
Renewable Energy Generation / Carbon Offsetting		
NZC-13	Work with Welsh Government Energy Service to explore and deliver opportunities for large scale renewable energy projects	Sustainable Development Manager
NZC-14	Work with National Procurement Service (NPS) to support greater procurement of energy from locally generated renewable energy projects	Sustainable Development Manager
Working with Carmarthenshire Public Services Board / Swansea Bay City Deal Partners		
NZC-19	Work with Carmarthenshire PSB partners to identify and develop opportunities for collaboration regarding carbon reduction	Corporate Policy and Partnership Manager
NZC-20	Work with Welsh Government and Swansea Bay City Region partners to establish a Regional Energy Plan for South West Wales	Head of Regeneration
Collaboration with experts from the private and 3rd sectors		
NZC-21	Work with the Council's contractors to explore innovative approaches to carbon reduction	Various
NZC-22	Participate in the Carmarthenshire 3 rd Sector Environment Network established by Carmarthenshire Association of Voluntary Services (CAVS)	Various
NZC-23	Work with Ynni Sir Gâr, and others, to deliver and support local renewable energy projects	Sustainable Development Manager
Integration and Communication		
NZC-28	Publish performance reports on progress towards becoming a net zero carbon local authority by 2030	Sustainable Development Manager

Achieving NZC by 2030 will require a range of ambitious actions and targets. A 'Public Sector Net Zero Carbon Route Map' is currently being developed by the Local Government Decarbonisation Strategy Panel as a high-level thematic framework to guide its approach. Where possible, we also propose to use this Route Map to help guide our approach. It should be noted that some of the Targets in the Route Map are particularly challenging, and appropriate Actions are currently being discussed with the relevant Lead Officers for incorporation into our NZC Plan.

THE JOURNEY TO NET ZERO : BUILDINGS	
Achieving our goal 2026-2030	<p>All new public sector buildings are built to net zero standard, including supply chain impacts.</p> <p>All public buildings are supplied with low carbon heat by 2030 and generate their own electricity where feasible.</p> <p>The focus is no longer on buildings but healthy environments to live, work and visit.</p>
Well on our way 2022-2026	<p>Firm proposals & business cases are in place for hard to decarbonise building types (e.g. complex hospitals) & shared spaces.</p> <p>Transition to all new schools and offices built to net zero standard (including supply chain impacts).</p> <p>All remaining existing buildings will be highly energy efficient OR scheduled for replacement & renewable heat schemes will be rolled out.</p>
Moving up a gear 2021-2022	<p>The climate impacts of our built estates are well understood.</p> <p>Our construction programmes include mandatory net zero objectives.</p> <p>Develop plan for hard to decarbonise building types (e.g. complex hospitals)</p> <p>Scoping for Low Carbon Heat pilot projects and significant progress on remaining energy efficiency opportunities.</p>

THE JOURNEY TO NET ZERO : MOBILITY & TRANSPORT	
Achieving our goal 2026-2030	<p>Citizen-centred models of service delivery reduces the need for travel by staff, visitors and service users.</p> <p>Commuting and business travel takes place using Wales' integrated public transport system is ultra-low emission, including our rail services. This is assisted by our aim to reduce the carbon footprint of buses, taxis and private hire vehicles to zero by 2028.</p> <p>Where practicably possible, all new heavy goods vehicles in the public fleet are ultra low emission by 2030.</p>
Well on our way 2022-2026	<p>Continued flexible working, use of local hubs and shared facilities, active travel and greater use of public transport significantly reduces car commutes and business travel in our working lives post-Covid pandemic.</p> <p>All new cars and light goods vehicles in the public sector fleet are ultra low emission by 2025.</p> <p>We will continue to work flexibly and make greater use of active travel.</p>
Moving up a gear 2021-2022	<p>We will understand the nature and use of our fleet, future patterns of usage, and a feasible technological pathway for an ultra-low emission transformation.</p> <p>We will accelerate the roll-out of EV charging infrastructure and our staff will be offered the opportunity to test ultra-low emission vehicles.</p> <p>We commit to fleet transformation plans and there is a considerable upscaling of ULEV uptake.</p>

THE JOURNEY TO NET ZERO : PROCUREMENT	
Achieving our goal 2026-2030	<p>The public sector has nurtured a productive, near zero carbon Welsh supply chain.</p> <p>Suppliers are incentivised through proportionate evaluation criteria to proactively seek further opportunities to reduce climate impacts.</p> <p>Staff are empowered to challenge the status quo – requesting zero carbon alternatives is routine and use of alternative business models is fully supported.</p>
Well on our way 2022-2026	<p>By applying the tools developed in the Getting Started phase, and the principles of a Circular Economy, we are rapidly reducing the carbon impact of our goods and services in line with our interim targets.</p> <p>Targeted support and skills development within the supply chain to increase the proportion of Welsh suppliers who can deliver the required goods and services and are, therefore, eligible for contracts.</p> <p>All purchasing activities have a robust carbon reduction phase built in at the earliest stage and throughout.</p>
Moving up a gear 2021-2022	<p>We gain a good understanding of our estimated £6bn / 3 million tonnes CO2e per annum procured goods and services, and its emissions profile and supplier base.</p> <p>Development of guidance, tools and training that will be targeted at procurement professionals to support the reduction of carbon throughout the procurement lifecycle.</p> <p>Suppliers are sent a strong signal regarding future low carbon requirements and staff are trained.</p>

Note: The scope of our NZC Plan does not currently include Procurement. This will be reviewed following the publication of the Wales carbon reporting guidance. The 'Public Sector Net Zero Carbon Route Map' approach to Procurement will be used to inform our approach.

THE JOURNEY TO NET ZERO : LAND USE

Achieving our goal
2026-2030

Carbon sequestered in our land assets more than offsets any remaining emissions and, where possible, will go further to maximise sequestration potential.

Initiatives to ensure communities are connected to green space have matured, and it is routine to integrate beneficial use of natural resources into our public services.

Well on our way
2022-2026

Use of natural habitats for carbon sequestration and citizen well-being is integrated into planning public spaces and service delivery.

Acquisition of additional land to connect existing habitats, create woodland and manage natural regeneration and roll-out of woodland creation and habitat restoration projects at scale.

Moving up a gear
2021-2022

We develop a common understand of the current status and sequestration potential of land under public ownership and set out an agreed level of expectation and ambition.

We will connect people with nature by delivering pilot projects on public land around woodland creation and habitat restoration.

Carbon sequestration is seen by Ministers and Public Sector leaders as a valid core purpose for use of public land.

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THE JOURNEY TO NET ZERO : GOVERNANCE & ENERGY PLANNING

Achieving our goal
2026-2030

The public sector are now delivering a range of projects across heat, power and transport to decarbonise regions. These projects are delivered both independently and in partnership, but all are working to a single vision and plan for the energy system of the region.

Well on our way
2022-2026

We deliver the first phase of local area energy plans, which indicate priority energy interventions to meet our power, heat and transport needs and how they can contribute to making places people want to live and work.

Renewable deployment is now part of a wider energy and decarbonisation strategy.

The public sector is delivering its first tranche of emissions reduction based on the emissions baseline.

Moving up a gear
2021-2022

Our energy activities are aligned to the priorities of the regional energy strategies, managed by cross sector governance arrangements. We develop local area energy plans which identify the changes needed to the local energy system, to decarbonise heat and local transport and realise opportunities for local renewable energy production.

Accelerate renewable deployment on public land with priority to where the development can deliver wider benefit, such as local ownership and reduced bills for Welsh business or communities.

The public sector baselines emissions and creates a plan for eliminating.

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Appendix 1

Wider Response to Climate Emergency

Whilst the initial focus of this Action Plan is a route towards becoming a net zero carbon local authority, it is important to recognise the wider actions that are taking place across the Council that contribute towards addressing the climate emergency.

COVID-19 has presented many challenges since March 2020 and many of our staff have been redeployed to help the County response to the pandemic. Notwithstanding this, considerable progress has been made on several initiatives.

Some of these actions and updates on progress are shown below (this is not an exhaustive list):

Housing

- **New Build Developments** – We currently have five new build developments on site, which will provide 114 homes, with a further 21 developments in the pipeline. Glanmor Terrace, Burry Port; Dylan, Llanelli; Maespiode, Llandybie and Gwynfryn, Ammanford are all back on site after COVID-19 delays and progressing well, whilst Garreglwyd, Pembrey will be re-commencing work on site as soon as possible. Estimated handover dates for the Council's first new build homes are scheduled for April 2021 at both Dylan and Garreglwyd. These developments will provide homes that have high levels of insulation by using 'Passivhaus' principles and will also include modern technologies such as Mechanical Ventilation with Heat Recovery (MVHR), electric vehicle charging points, plus solar PV and battery storage. We call this new standard, Building Regulations PLUS.

Overall, our new build programmes achieve an EPC 'A' rating and a minimum SAP level of 95. Our new build development in Glanmor Terrace however, achieves SAP level 105 as the homes can produce and store their own electricity. To monitor the improved standard that we have implemented into our new build developments, we are looking to work with Cardiff University who will be able to provide us with data on the home's energy efficiency, carbon footprint and how the tenants are operating within the home.

- **Optimised Retrofit Programme (ORP)** – We have successfully been awarded grant funding for seven void properties that equate to 26% of the Council's housing stock archetype. The purpose of this programme is to identify and install a range of energy measures that will reduce carbon emissions within the home and improve energy efficiency. The measures within this programme include high levels of thermal insulation, triple glazed windows, solar PV with battery storage, MVHR, and LED lighting. One of the properties will also offer an 'off-grid' solution, where Air Source Heat Pumps will be installed as the primary heating system. All seven properties are aiming to achieve a minimum SAP / EIR rating of 92 in line with Welsh Government's targets for the ORP.

The ORP has provided us with an opportunity to identify solutions for our most prominent housing stock, which has the further potential to be rolled-out as a wider programme once the impact of the void retrofit project has been measured. Work on the homes has now begun, with homes situated within Llanelli being the first to begin the retrofit. The homes are currently in the process of being cleared with existing M&E equipment being removed. The current works programme expects all homes to be completed and ready for handover towards the end of April 2021.

- **Approach to Flats** – We have taken a similar approach to the ORP by looking for an innovative solution for our flats that follows a fabric first approach. The proposed specification for our innovative flat solution includes high levels of fabric insulation, triple glazed windows, hybrid or air source heat pumps, solar PV and lithium batteries, LED lighting. We are in the final design stages of a pilot to test this scheme. Work on has already begun and is in the early stages of soft stripping.
- **Collaborative Research and Innovation Support Programme (CRISP)** – We have recently been successful in securing additional funding from Welsh Government for further research to better understand our housing stock, and to provide appropriate tools to enable us to bring forward our housing decarbonisation agenda. The CRISP allows us to explore the effect of Affordable Warmth on our tenants - ensuring that the running costs of our homes are affordable and not to the tenants' detriment. This research will shape the roll-out of the ORP across our wider housing stock and provide a model of best practice for other social landlords. This will then feed into the sustainability of our future works and maintenance programmes and local economy. To date, we are working with Cardiff University to create a tool that will allow us to model our housing stock based on the SAP 2012 methodology. This research project ends in March 2021.

Public Protection and Air Quality

- **Routine monitoring and inspection** – We regularly monitor and inspect various Carmarthenshire businesses to ensure that they are operating to environmental standards. We also engage with various sectors to ensure the best available techniques are used to protect public health and the environment, for example those environmental polluters that produce black / dark smoke. Also, businesses with certain types of combustion processes such as crematoria are required to monitor their own carbon footprint from gas usage which can also help identify business savings if alternative methods can be used.
- **Air Quality - Air Quality - Management Areas (AQMA's)** are declared in the towns of Llandeilo, Llanelli, and Carmarthen. We work in collaboration with external partners to deliver actions to improve air quality in these areas. This work primarily aims to reduce traffic congestion and build-up of pollutants, and support projects that promote and encourage the use sustainable modes of transport and active travel. We also actively promote national active travel campaigns such as Clean Air day, World Car Free day, Walk to School and Bike to School weeks to encourage residents to get involved by choosing sustainable modes of travel.
- The 'Impact of COVID-19 lockdown on Air Quality in Carmarthenshire' report (July 2020) shows that significantly lower levels of nitrogen dioxide (NO₂) were recorded during April 2020 across Carmarthenshire's AQMA's and for the first time in over seven years all monitoring sites measured a monthly reading below 40µg/m³.

Procurement

- In early 2020 we engaged with WRAP Cymru to investigate opportunities to consider and increase post-consumer recycled (PCR) content re-use, recovery, and recycling of materials to be built into procurements, such that a new sustainable approach becomes mainstream across all our divisions. A draft report was completed in April 2020 but due to COVID-19 full consideration of its implications has yet to be agreed and set into practice. However, some elements have been included in our standard procurement templates (e.g. expanded our questions in our Sustainable Risk Assessment template that's carried-out for all exercises valued over £25k) for consideration at the start of a tender exercise.

- Our Foundational Economy project regarding Public Sector Food Procurement aims to introduce the community-wealth building concept, ensure strategic buy-in from senior leaders, and understand how this approach can shape and support Carmarthenshire's COVID-19 Recovery Plan to help local businesses which are at risk or vulnerable due to the pandemic and supporting the growth of local employment opportunities.
- The Centre for Local Economic Strategies (CLES) have been appointed to look at our procurement practice and arrangements and has also focused on food spend within Hywel Dda University Health Board, Coleg Sir Gâr, and University of Wales Trinity Saint David. A draft report has been produced with an action plan to apply the recommendations to be considered further.

Highways and Transportation

- **Promoting Active Travel** - We have worked throughout the year to encourage the adoption of sustainable travel options and taken a lead role in developing the necessary infrastructure which facilitates walking and cycling journeys instead of short trips by car.
- **Sustainable Travel Networks** - Throughout 2020 we have continued to develop the strategic network of walking and cycling routes at many locations but particularly within the wider Llanelli area.
- **Electric Vehicle Charging Points** - We have installed 26 new electric vehicle charging points around Carmarthenshire and particularly at destination points to enable journeys by electric vehicles. Further we have been awarded funding by Welsh Government to install a super-fast charging hub at Cross Hands to be completed by 31st March 2021 - believed to be the first of its kind in Wales.
- **Lobbying for Rail Improvements** - We have continued to work with Welsh Government and Network Rail to promote the case for rail improvements within Carmarthenshire. This includes regional improvements through the Metro initiative and more localised improvements at railway stations within the County.
- **LED Street Lighting** - In 2020 we completed a project to upgrade 5,000 community lighting units to incorporate LED lighting. We project managed the initiative which included 'invest to save' funding for Community Councils, reduced energy consumption and improved lighting quality in local communities.
- **Public Realm Changes** - In response to the COVID-19 pandemic we have implemented infrastructure changes within our key town centres to help combat the risk of infection and allow visitors to safely return to our towns. This also aimed to 'lock-in' and encourage sustainable modes of travel into our towns and included pedestrianising streets in Carmarthen and Llanelli town centres.
- **Reducing Traffic Congestion** - Our Engineering Design Team have promoted and managed a portfolio of engineering schemes which are targeted towards reducing longstanding traffic congestion hotspots on our highway network. This includes major highway improvements at Ammanford and Cross Hands, Junction 48 of the M4, Sandy Road in Llanelli and other key locations.
- **Electric Vehicles** - We have submitted a bid to Welsh Government to replace five diesel fleet vehicles with electric vehicles.

- **Reduced Travel** – Our office-based staff have moved very successfully to home working with significant use being made of ICT to hold virtual meetings and exchange to share and exchange documents. Video surveys have also been undertaken of almost all the highway network using a Vaisala system which incorporates artificial intelligence to determine road surface conditions, map and analyse road markings and traffic signs. This builds our asset database and has made a considerable saving on staff site visits.
- **Real Time Passenger Information** - To encourage greater use of public transport investment has been made in installing Real Time Passenger Information facilities with 30 display screens at key locations such as Carmarthen Bus Station and Glangwili Hospital to enable customers to track services.
- **Safe Routes in the Community** - We are continuing our high-quality programme of infrastructure and supporting behavioural change initiatives that encourage safe sustainable travel within communities (with a specific emphasis on travel to and from school). Utilising funding from Welsh Government we are currently introducing programmes in Ammanford and Llanelli West, building on programmes previously undertaken in numerous locations across the County.

Leisure

- The Amman Valley Leisure Centre, Carmarthen Leisure Centre, Llandovery Swimming Pool and Newcastle Emlyn Swimming Pool are included in our Re:fit Cymru Phase 1 project. We also plan to install, where possible, EV charging points at our facilities for both car and bicycles.
- We are reducing the amount of plastic packaging being used in our catering outlets in favour of recyclable/biodegradable materials. Where we lease catering concessions on our sites, we ask that all food cartons/cups etc. are recyclable. There is also a big push to recycle more waste at facilities, with separate bins for general rubbish and recyclable materials more available throughout.
- When undertaking procurement exercises, we endeavour to ensure that we incorporate as much recycling of materials of possible into capital projects. For example, on the current Carmarthen Athletics Track refurbishment project, rather than taking excavated materials off site they are being used to form functional features on site such as viewing mounds for spectators. Also, almost all the refurbished all-weather pitch old surface was recycled and used at Pembrey Country Park for creating pedestrian pathways on site.
- We are creating and delivering more activities / services online (these partially COVID-19 enforced but have longer term benefits) increasing access to our services and reducing the need to travel for our end users.

Waste and Environmental Services

- We are exploring opportunities to deliver carbon reduction in our new waste collection methodology, including reviewing the potential for ULEV fleet replacement when next replacing our waste kerbside collection fleet and ancillary service vehicles in line with fleet strategy and associated infrastructure.
- We are endeavouring to maximise, and where possible exceed, statutory waste recycling targets.
- With CWM Environmental Ltd we are reviewing the potential to use UK markets for recycling materials to reduce the carbon footprint of our recycling.

- As part of corporate ambitions to incorporate the Circular Economy, we aim to move waste higher up the waste hierarchy by promoting reuse and repair in addition to specifying and using products created with low carbon impact.
- We are scoping the potential of adopting a grass-cutting regime incorporating a biodiversity action plan for grounds maintenance activities and are also reviewing the potential of battery powered plant and machinery for ground maintenance services.

Planning

Education

Regeneration

Finance

Information and Communications Technology (ICT)

Civil Contingencies

DRAFT