Blaenau Gwent County Borough Council

Net Zero Report 23/24

Decarbonisation Plan 2020 to 2030

Cyngor Bwrdeistref Sirol
Blaenau Gwent
County Borough Council

Blaenau Gwent County Borough Council Net Zero Report 2023/24

If you have any queries or questions in relation to this report, please contact the BGCBC Policy and Partnerships Team at the below email address:

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Mae'r ddogfen hon ar goel yn Gymraeg

This document is available in Welsh.

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1. Our Approach

Our approach is based on Welsh Government's two Net Zero targets: Net Zero 2030 for the Welsh Public Sector (organisational emissions) and Net Zero 2050 for all of Wales (territorial emissions). Our organisational emissions are the carbon emissions produced by delivering our services, while Blaenau Gwent's territorial emissions include all the carbon emissions released within the borough, from homes, transport, businesses etc. We have made a clear separation between these two Net Zero goals because the two types of emissions often require quite different types of action, and we have greater direct control over our organisational emissions. This report provides an overview of our organisational carbon footprint for 2023/24 and a summary of the actions we are taking towards our Net Zero 2030 and Net Zero 2050 ambitions.

2. Summary of Activity

Our journey towards our Net Zero targets is overseen by our Climate Group, who's core membership includes the Cabinet Member and Climate Champion, three members of our senior leadership team and a trade union representative. The group meets every six weeks with an alternating focus on Net Zero 2030 at one meeting and Net Zero 2050 at the next.

During the last year the Climate Group has had detailed discussions of all five of the **key Net Zero 2030 actions**, selected as priorities due to their significant carbon and resource implications. Summaries of these discussions and progress on the next steps identified as a result can be found below (page **Error! Bookmark not defined.**). Over the course of a year the group continued to hear about all our Net Zero 2030 actions through 'Transition Focuses' relating to our eight transitions. These Transition Focuses take a forward look at the challenges and opportunities ahead, as well as monitoring progress. This report includes the most recent version of all **Transition Focuses** (see page 17).

In July 2024 we adopted our **Net Zero 2050 Framework**. The framework provides a high-level overview of the overall path towards Net Zero for Blaenau Gwent, rather than a detailed action plan. We adopted the framework approach to Net Zero 2050 because of the wide range of sources of territorial emissions, many of which are outside of our direct control. The framework is structured around four themes: energy, housing, nature and transport that reflect both the priorities of the Blaenau Gwent Climate Assembly and our major emissions sources. The framework will inform more detailed actions that will sit in key plans in each of the four themes.

We also endorsed the Blaenau Gwent **Local Area Energy Plan (LAEP)** in July 2024. The LAEP is one of these key plans under the Net Zero 2050 Framework, with the LAEP covering 70% of Blaenau Gwent's territorial emissions. Blaenau Gwent's LAEP was prepared by a consortium led by Arup, administered by the Cardiff Capital Region (CCR), using Welsh Government funding and will also help inform a national energy plan. The energy transition identified in the LAEP is not something that can be delivered solely or even primarily by the Council.

Blaenau Gwent will ultimately be dependent on wider changes to achieve a Net Zero energy system, particularly changes to the energy grid and pricing. However, it is also the case that if all these wider regional and national changes do take place (for example, the UK Government target to decarbonise the electricity grid by 2035), without substantial local action in Blaenau Gwent also taking place these wider changes will not result in a Net Zero energy system in Blaenau Gwent. This local action will also require significant support, the scale of change required locally cannot be achieved within existing resources. Further details of the Net Zero 2050 Framework and LAEP can be found in the section on **Net Zero 2050** (page 50). We also committed to take a number of actions identified as being led by the council in the LAEP, in addition to continuing our existing work on Net Zero 2050, such as securing funding for an Innovate UK Fast Followers Project trialling solutions for electric vehicle charging for residents.

Of course, achieving Net Zero is ultimately about delivery, and the detail our progress over the last year, can be found in our carbon footprint and the transition focuses.

3. Organisational Net Zero 2030

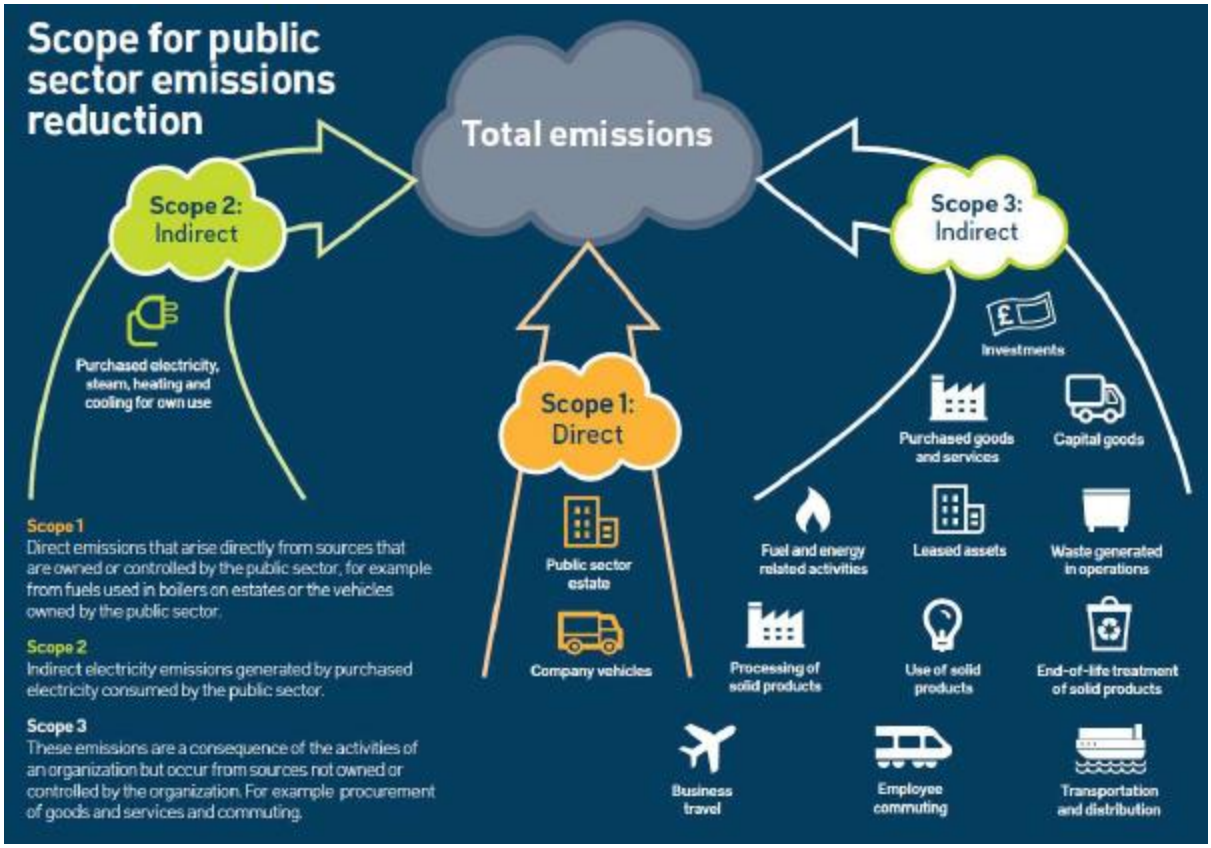
Our Decarbonisation Plan was adopted in September 2020 at the same time we declared a Climate Emergency. The plan addresses our organisational emissions with the aim of making our full contribution to the ambition of a Net Zero Public Sector in Wales by 2030.

We have adopted a data driven approach, based on identifying from our carbon footprint, eight transitions we have to undertake to reach Net Zero. Each of these transitions represents a coherent area of action with its own distinct low carbon technologies, business models and infrastructure. Each of these transitions has its own detailed actions to deliver it. Our approach is based on mainstreaming decarbonisation into our operations, rather than establishing separate decarbonisation projects and budgets. With a cross-organisation climate group providing corporate overview. Overview of our Transitions:

1. **Transport.** Travel by our staff in corporate or their own vehicles, includes fleet, commuting and staff travel within work.
2. **Nature Based Solutions.** Absorption of carbon on land we own and manage, largely associated with woodland, urban trees and peatland.
3. **Procurement: Goods.** Which covers what we purchase as an organisation and includes key items such as clothing, food, IT, machinery, equipment and furniture.
4. **Procurement: Services.** Which covers the services we procure to deliver our functions such as schools and social services. This also includes investments such as pension schemes.
5. **Procurement: Works.** Which includes all construction and maintenance of our buildings and infrastructure.
6. **Electricity.** Covers the electricity we purchase to run all our services. It includes key things such as street lighting, running our corporate buildings and schools. It also includes our use of renewable technologies.
7. **Heat.** Includes our heating (and cooling) of our buildings.
8. **Waste.** Covers the carbon impacts of our treatment of municipal waste, whether recycling, landfill or waste to power.

4. Our Carbon Footprint

Our carbon footprint is divided in to three scopes (see diagram below). Our footprint includes all emissions from assets, such as buildings and vehicles, that we have day-to day operational control of, whether we own or lease them (Scope 1 and 2 emissions) and emissions which are the result of our procurement and other organisations delivering services on our behalf (Scope 3 emissions). We calculated our baseline carbon footprint for 2019/20.



The underlying method for calculating our carbon emissions is quite simple. Carbon emissions are the amount of an activity that we carry out (e.g. litres of diesel used by our fleet or the amount spent on construction projects) multiplied by the nationally calculated average carbon intensity of a unit of that activity (e.g. the carbon emissions from a litre of diesel or pound of spend on construction projects):

carbon intensity of activity x amount of activity = total emissions
(e.g. CO_2 per litre x litres of fuel used = emissions)

Our carbon footprint emissions can be divided into two types, which differ significantly both in the level of control we have on achieving carbon reductions and also how they can be monitored. The first type, ***direct emissions*** are either directly released through our operations (e.g. fuel burnt in our fleet) or through our consumption of electricity (e.g. street lighting), these emissions largely correspond to scopes 1 & 2. Due to the direct relationship between our activities and carbon being released, we have relatively high levels of control

on reaching Net Zero for these emissions and therefore we can directly measure our progress in terms of carbon emissions.

The second type, ***spend based emissions*** are related to our procurement of products and services, these include most scope 3 emissions, we have less direct control over these emissions. Spend based emissions calculations can give a reasonable estimate of the size of these activities' contribution to our overall carbon footprint. However, because they are calculated based on our financial spend and national average carbon intensity factors, they cannot accurately detect changes in our performance from year to year, so they are not suitable for monitoring our performance over time. As a result, we will not update our spend-based emissions figures on an annual basis.

Two of our transitions have negative carbon emissions figures. The nature based solutions transition is about the carbon impact of the land we own. This figure is based on the net annual change in the carbon stored and released from the land we own and/or manage. These land-based figures are true ***negative net emissions*** that represent removal of carbon from the atmosphere.

The negative figure for the waste transition represents ***avoided emissions***, the amount of carbon emissions that are avoided by others producing products using recycled waste rather than new materials. However, our footprint only includes the emissions from the recycling process. The avoided emissions from municipal waste are not part of our carbon footprint, as unlike the land-based figures they do not represent a removal of carbon from atmosphere .

We have also reported the amount of renewable electricity we have generated from solar; these figures are not directly part of our carbon footprint. As the carbon savings from the electricity we use ourselves is already captured in our footprint through the reduced amount of grid electricity we need to use, while the electricity we export to the grid contributes to the lowering of the carbon intensity of the national grid as a whole.

2023/24 Carbon Footprint

	tonnes CO_2e/year				
Scope 1 - Direct Emissions	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Natural Gas Heating	3,942	3,725	3,483	3,512	3,335
Natural Gas Heating Aneurin Leisure	1,152	798	1,076	967	953
Biomass Heating	60	67	75	46	44
Diesel Fleet	911	905	933	782	654
Petrol Fleet	18	9	10	10	10
Liquid Natural Gas Fleet	35	31	32	28	23
Scope 1 Total	**6,118**	**5,535**	**5,609**	**5,345**	**5,019**
Scope 2 - Electricity Indirect Emissions					
Metered - Buildings	1,792	1,272	1,265	1,171	1,202
Metered - Buildings Aneurin Leisure	*572*	*279*	*374*	*343*	*353*
Unmetered - Street Lighting	968	870	700	642	688
Metered - Electric Fleet Vehicle				0.2	2
Scope 2 Total	**3,332**	**2,421**	**2,339**	**2,156**	**2,243**
Scope 3 - Other Indirect Emissions					
Purchased Goods and Services	23,069	22,723	21,753	33,548	39,701
Extraction, Production & Transportation of Fuel & Energy Used	2,104	1,727	1,548	1,620	1,510
Extraction, Production & Transportation of Fuel & Energy Used Aneurin Leisure	*288*	*170*	*323*	*294*	*284*
Water	68	62	32	36	29
Water Aneurin Leisure	*33*	*17*	*9*	*13*	11
Business Travel	278	118	198	281	271
Business Travel Aneurin Leisure	*11*	*2*	*4*	*8*	9
Staff Commute	2,335	1,557	2,074	2,067	2,083
Homeworking Energy Use			352	327	297
Organisational Waste and Downstream Transport	216	209	612	205	186
Scope 3 Total	**28,402**	**26,585**	**26,905**	**38,400**	**44,389**
Sequestration					
Forest land	-2,350	-2,350	-2,350	-2,350	-2,350
Grass land	-55	-55	-55	-55	-55
Settlements	919	919	919	919	919
Sequestration Total	**-1,486**	**-1,486**	**-1,486**	**-1,486**	**-1,486**
Carbon Footprint Total	**36,366**	**33,055**	**33,367**	**44,415**	**50,164**

Indicates figures not recalculated

Indicates revised figure

Indicates new data

Indicates figures less accurate as fleet vehicles not able to refuel at Depot for most of year

Carbon Footprint Trends

Procurement emissions figures for purchased goods and services this year, like those for last year, are far higher than the figures for the three previous years. There are three main reasons for this. Firstly, there is again substantial spend on rail infrastructure improvements to the Ebbw Vale rail line. This is a major construction project and represents a significant proportion of our total spend and will of course have climate benefits for Blaenau Gwent in the long-term. Secondly, there was also a significant increase in spend on school construction projects this year. Finally, there was a significant upward revision of the emissions factor for revenue spending on education, which has increased our footprint although the spend level remained largely the same. On a much smaller scale we have seen a substantial increase in emissions from electric vehicle charging emissions as the number of EVs in our fleet has increased significantly. These emissions have been far outweighed by a much greater fall in our emissions from fleet diesel vehicles.

Changes in our directly measured carbon emissions which do capture annual changes in performance (and do not include these procurement figures) are shown in the table below. Overall, there has been a 3% fall in these emissions compared to last year and a cumulative 19% fall over the four years since our 2019/20 baseline. Part of the reason for a reduced fall in emissions compared to the previous year was that the average carbon intensity of the national grid increased last year after consistent falls. This meant, for example, that although our buildings electricity consumption fell by 4% the related carbon emissions actually increased.

tonnes CO_2e/year	2019/20	2020/21	2021/22	2022/23	2023/24	Change from Base Year	Change from Last Year
Direct Carbon Emissions	14,783	11,818	13,100	12,353	11,949	-19%	-3%

5. Position Summary

As outlined in last year's Annual Report we identified five key Net Zero 2030 actions from the full list of 39 actions across the eight transitions in our Decarbonisation Plan. These key actions are either ***large impact/high ambition actions*** that will have the greatest impact on our journey to Net Zero 2030 (and correspondingly also have the largest resource implications) and/or ***low regrets actions*** which offer significant scope to make progress in the short-term with proven decarbonisation solutions (which may offer financial as well as carbon returns). Over the last year the Climate Group have explored each of these key actions in further detail, and an update on progress for each can be found below:

Fleet Decarbonisation Plan

This year we have had to decide about the future of our waste and recycling fleet. The majority of our waste & recycling vehicles were procured in 2015 using Welsh Government grant funding. This was part of the Welsh Government Collaborative Change Programme, which saw the Councils Waste collections change from fortnightly refuse / co-mingled recycling collections to 3 weekly refuse / weekly kerbside sort collections. Due to the uncertainties of austerity at the time, no funding was identified / earmarked for future fleet replacement associated with the future provision of the new service. The current vehicles are now over 8 years old and require more and more maintenance, increasing running costs, resulting in sustained vehicle downtime.

Trials were carried out over six months of electric vehicles equivalent to those we currently utilise, with varying degrees of success. Finding that there are RRVs on the market that would meet our needs, but there are currently no RCVs that are suitable. In addition, the critical challenge is that the existing Depot does not have the physical space to accommodate the quantity of dedicated charging bays needed. Challenges with other potential depot sites mean that they will not be available before fleet replacement needs to take place.

As a result, we have decided that the existing waste & recycling fleet will need to be replaced with more efficient diesel vehicles. We recognise that although this will realise some carbon savings, it is a significant blow to our Net Zero ambitions in this area, particularly given the contribution of waste & recycling vehicles to our total fleet emissions. However, operational needs and the practical constraints have forced us to reluctantly make this decision, and we note that other Welsh Local Authorities have also been forced to make similar decisions recently.

We continue to decarbonise the rest of our fleet and have added eight additional EV's to the fleet in recent months:

1 x Maxus e-deliver van [replace diesel equivalent] – Used within waste Services

1 x Maxus T90 pickup [new to fleet] – Used within the Green Infrastructure Team

1 x Maxus T90 pickup [new to fleet] – Used by our Local Environmental Equalities officer who promotes, litter picking, recycling etc within our schools

1 x Vauxhall Vivaro Wheelchair Accessible Vehicle [replaced diesel equivalent] – Used by and based at Augustas House [Social Services]

4 x EV Taxis' – Transferred from the Cardiff Capital Region scheme to BGCBC [used by Social Services, Regen and A.N.Other]

This takes our compliment of EV's to 16 in total, which is 13% of our fleet. We currently have six dual chargers and two single chargers at the Central Depot.

Decisions about the next round of vehicle replacement and charging infrastructure will be made following announcement of details of Welsh Government funding in September.

Procurement Deep Dives

We cannot rely solely on assessing procurement on a case-by-case basis to reach Net Zero. Decarbonising procurement is about more than just choosing the lowest carbon product at the time of purchase, other factors such as how the product is used and how long it lasts can be more impactful on our carbon footprint. We can take a more systematic look at how to reduce this carbon impact through a deep dive into the product categories identified as making the greatest contribution to our carbon footprint (see table above). The same principles still apply to these deep dives, that this does not necessarily require complex carbon calculations, in the first instance we should look to apply publicly available carbon information to understand where we can have the greatest impact. Following the procurement goods transition focus **(page 26)** computing and food were identified as topics for the first two procurement deep dives. These will be reported on in next year's Net Zero Report.

Schools Climate

Our approach recognises that schools collectively are major contributors to most of our transitions. We already engage with schools across a range of climate related actions through a variety of different service areas. Last October we began the process of bringing these actions together into a more co-ordinated approach by holding a cross council working group that included officers working with schools from across the council from

catering to biodiversity to buildings services. With the aim of ensuring a more co-ordinated approach to school engagement and to help schools develop a full understanding of their carbon impact.

To deliver this approach climate change has been added as a standing item to the joint head-teachers meeting, with the intention of covering a series of important climate actions for schools. At a more operational level climate is also a standing item at the half-termly facilities meetings with schools. Carbon impacts have also been integrated into the new schools facilities database that is currently being developed, to help schools understand their total carbon impact. This database will also incorporate the information developed by the school building decarbonisation surveys recently undertaken by Aecom on behalf of Welsh Government.

From this information we are helping schools to identify where the best opportunities are to make carbon savings and also working with partners including neighbouring Local Authorities to share best practice. This includes:

- Welsh Government Energy Service undertaking exercise to determine which schools would benefit most from additional solar generation.
- Exploring how successful LED and automatic lighting schemes utilising Salix funding can be repeated at other schools.
- Completed feasibility studies for two schools (one primary and one secondary) to understand potential and costs for heat pump deployment.

Engaging pupils is also an important element of this work, including through Children's Grand Council and individual schools' eco councils. Climate Change was a priority for our Youth Forum last year, who created a **short film** about climate change for primary aged children. We also engage pupils on specific topics including through our biodiversity work with schools and the establishment this year of a partnership group working on active travel to schools, including eight schools joining **Living Streets WOW project** .

The new Welsh medium school, Ysgol Gymraeg Tredegar (scheduled for completion 2025) is designed to achieve Net Zero operational and embodied energy. It maximises natural light and ventilation, uses sustainable materials and heat pumps, will significantly enhance site biodiversity and have a massive solar array on the green roof.

Local Renewables and Investment

The Blaenau Gwent Energy Prospectus is a key document within this action that sets out a range of available development opportunities within Blaenau Gwent; and serves as a basis for engaging proactively with potential investors, scheme developers, other Local Authorities and community groups to stimulate local energy development and supply. Progress on opportunities for local renewables identified in the Energy Prospectus is summarised below (the Energy Prospectus also includes other elements that are not part of this key action):

Wind generation – Progress has been made with one site to reach full business case development stage. A planning application has been submitted and is due for a decision shortly.

Solar generation – Welsh Government Energy Service has undertaken an initial feasibility study for solar farm potential. As a result an indicative project has been outlined. The next steps are to explore grid connection options and potential local off takers for the generation with a view to developing a business case.

Hydro generation – A feasibility study completed for one site and a planning application has been drafted. A water abstraction licence has been secured from Natural Resources Wales. The next steps are to develop a specification for the electric pumps required for the leachate lagoon, update designs and submit the planning application.

The Works District Heating Network expansion – New Lime Avenue Business Park units have been connected to the District Heating Network. There remains potential for further expansion.

Community Municipal Investment Bonds - Work is ongoing to use Community Municipal Investment to raise public finance for investment into green projects and raise awareness of climate change.

Solar Car Ports – We are currently actively exploring options for a trial of solar car ports.

Roof Top Solar – This year we generated 262,780 kWh from solar on our buildings. We are currently assessing the potential for solar generation on our other building rooftops to identify potential projects.

The new Abertillery Library, run by the Aneurin Leisure Trust, at Trinity Chapel incorporates solar panels and an air source heat pump.

Nature Based Solutions

This autumn elected members will be considering whether to declare a Nature Emergency and to adopt a Local Nature Recovery Action Plan (LNRAP) and Pollinator Policy to help direct action in halting and reversing the decline of biodiversity.

Nature Emergency

The following statement emerged as the preference for the declaration of a Nature Emergency during Members workshops.

"Blaenau Gwent CBC has declared a Nature Emergency to recognise urgent action to be taken to halt the loss of biodiversity and is committed to maintaining, protecting and enhancing spaces to create resilient ecosystems that contribute to our requirements in our Net Zero carbon goal."

Local Nature Recovery Action Plan (LNRAP)

The LNRAPs identifies local priorities for the conservation of species and habitats and reflects the priorities of Wales NRAP and UKBAP (Bio-diversity Action Plan). There are six objectives within the LNRAP:

- Objective 1: Engage and support participation and understanding to embed biodiversity throughout decision making at all levels;
- Objective 2: Safeguard species and habitats of principal importance and improve their management;
- Objective 3: Increase the resilience of our natural environment by restoring degraded habitats and habitat creation;
- Objective 4: Tackle key pressures on species and habitats;
- Objective 5: Improve our evidence, understanding and monitoring;
- Objective 6: Put in place a framework of governance and support for delivery.

Pollinator Policy

The Pollinator Policy has been produced to reflect current national priorities and legislation and will promote the creation of pollinator friendly habitats on land owned by us. The policy outlines the following actions:

- Reducing the number of cuts to grassed areas – This will allow a longer growing period, enabling plants to set seeds and encourage greater diversity of plant species
- Introduce perennial native wildflower mix to formal beds and where appropriate to other urban area green spaces. Planting schemes in all other public areas will directly reflect the policy. *

- On A & B highways routes, where safe to do so, change the time of verge cuts and reduce to 2 cuts per year. Identify opportunities for the development of meadow areas within amenity and open spaces.
- Continually review our grass cutting and planting practices ensuring compliance with emerging legislation and best practice.
- Continue to develop more habitats for solitary bees e.g. bee bank, grasses, tree holes and bug hotels.
- Reduction in herbicide and pesticide usage: continue to monitor any herbicide usage and actively reduce the amount applied annually. Ensure where usage is required, that techniques etc implemented are kept up to date with best practice.
- Encourage local community groups to avoid using herbicides and pesticides and if required use organic wildlife friendly alternatives or natural pest control
- Utilise the appropriate signage, such as the Nature Isn't Neat interpretation boards, to raise awareness of the changes in practice and the underlying reasons.
- Monitor the effectiveness of the changing practices. We will visit sites that have been subject to the changes to see if pollinator supporting habitats have been created and sustained.
- Apply to the **Bee Friendly Caru Gwenyn** scheme which will accredit Blaenau Gwent County Borough Council as a Pollinator Friendly council.

Resourcing

We are making an ongoing commitment to work as a key partner in the delivery of the LNRAP and for our Ecologist, Biodiversity Officer and Nature Recovery Officer to continue to provide support to the Local Nature Partnership as secretariat and LNRAP project organiser.

External funding is provided by Welsh Government's Local Places for Nature grant on an annual basis, to deliver LNRAP and other biodiversity related work. This funding also funds the Nature Recovery Officer and Biodiversity Officer. This funding comes to an end in March 2025.

Our new Countryside Rangers help to implement the actions within the LNRAP and carry out actions that are outlined with in the ecological management plans for our ten Local Nature Reserves and one candidate Local Nature Reserve. These posts are funded through SPF (Sustainable Prosperity Fund) with funding coming to an end in March 2025.

6. Transition Focuses

We will continue to monitor progress across all eight of our transitions, including through the Climate Group receiving a 'Transition Focus' on every transition over the course of a year. These focuses will provide a summary of progress on actions and the upcoming challenges and opportunities for that transition. This report includes the most recent transition focuses, but it should be noted that they reflect the situation when they were received by the Climate Group rather than at time of this report.

6.1 Transport *(Proportion of Footprint: 13%)*

Carbon Data

		tonnes CO_2e/year					
	19/20	**20/21**	**21/22**	**22/23**	**23/24**	**Change From Last Year**	**Change From Base Year**
Diesel Fleet	911	905	933	782	654	-16%	-28%
Petrol Fleet	18	9	10	10	10	0%	-44%
Liquid Natural Gas Fleet	35	31	32	28	23	-18%	-34%
Metered - Electric Fleet Vehicle				.2	2	900%	
Business Travel	278	118	198	281	271	-4%	-3%
Business Travel Aneurin Leisure	*11*	*2*	*4*	*4*	9	125%	-18%
Staff Commute	2,335	1,557	2,074	2,067	2,083	1%	-11%
Transport Total	**3,588**	**2,622**	**3,251**	**3,172**	**3,052**	**-4%**	**-15%**

Indicates previous years data revised due to significant changes in emission factors

Indicates figures less accurate as fleet vehicles not able to refuel at Depot for most of year

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

13 %

What does the transition include?

Transport includes all emissions associated with our fleet, and all energy use from other journeys undertaken by BGCBC staff as part of their job role or travelling to work. It does not include travel by other organisations delivering services on our behalf, travel associated with deliveries to or from us, or transport services we commission others to provide on our behalf, e.g. buses (which are all captured in procurement transitions).

Where do emissions come from in this Transition?

There are four main sources of emissions in this transition identified in the plan:

Transitions Breakdown	
	19-20 Baseline
Transition 1 - Transport Direct	
1. Fuel Use by Fleet Vehicles	987
2. Fuel Use in Employee Commute	2,005
3. Fuel Use in Employee Business Travel	279
4. Emissions from Manufacture and Maintenance of Fleet Vehicles	2,329
Transition 1 Total	***5,600***

Emissions from commuting are higher than those from the total fuel use of our fleet. Home and agile working has reduced commuting emissions substantially, but over half of our commuting emissions are associated with schools-based staff where the potential for home working is more limited. Refuse vehicles and other larger vehicles make up over half of our fleet fuel emissions, these are vehicle categories where there is currently limited availability of ULEV alternatives. Employee business travel was a small element of transport emissions, even before significant post COVID reductions. The embodied emissions from the manufacture and maintenance of fleet vehicles are a substantial element of this transition, but we have less direct control over these emissions.

How do we intend reach Net Zero?

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Vehicle Charging Infrastructure (Non-Depot)	T1	Develop a plan for non-depot charging infrastructure for fleet and staff personal ULEV vehicles at key sites	Sufficient Charging Infrastructure provided at council buildings for staff needs
Fleet Decarbonisation Plan	T2	Develop a Plan for a low carbon fleet and resource its implementation by building costs into Corporate Medium Term Financial Plan	All vehicles in Fleet are Ultra Low Emission Vehicles (ULEV)
Low Carbon Depot	T3	Develop and resource a low carbon Depot	Sufficient charging capacity for all fleet vehicles, with on-site zero carbon power generation and storage maximised.

New Fleet ULEV Vehicles	T4	Replace small vehicles in fleet with ULEV in phased way in line with available space, grid capacity and infrastructure (prior to opening of new Depot)	All vehicles in Fleet are Ultra Low Emission Vehicles (ULEV)
ULEV Vehicle Procurement	T5	Ensure procurement arrangements are in place to deliver the low carbon fleet plan. Including developing ownership/rental models and opportunities for regional and national collaboration.	Procurement models reflect costs and properties of ULEV vehicles
Staff Active Travel	T6	Investigate and identify staff demand for active travel and consider business case to meet this demand e.g. showers at main sites, secure shower facilities, safe storage and e-charging for cycles.	Active Travel infrastructure, such as cycle storage and changing facilities, available at sites with high demand
Home and Agile Working	T7	Embed the new operating model and assess its impact in terms of decarbonisation.	Commute travel distance and staff business miles are minimised through home and agile working and utilising digital technology/mobile worker functionality.
Grey Fleet/Business Travel	T8	Identify solutions for grey fleet use of personal vehicles delivering council services e.g. Social Services.	Corporate pool or hire ULEV vehicles are available for business travel wherever business need justifies.
Staff Travel	T9	Explore how staff can be encouraged to switch to their personal vehicles ULEV.	Provide and actively promote support and incentives for staff travel shifts from cars to public transport, vehicles sharing, walking and cycling wherever possible. Where not possible provided support and incentives to use personal ULEV.

Our challenges, opportunities and risks

- Low carbon alternatives are not currently available for many of the large vehicle types that we use to deliver services. Even when vehicles are on the market there are issues about real world performance; particularly in relation to (i) the use of auxiliary equipment that draws on power such as lifting and heating and (ii) the topography of the local area, hill starts and climbs are a major power drain. There are examples of local authorities procuring vehicles that were not able to deliver the service. We continue to trial large ULEV vehicles on the ground.
- Smaller ULEV vehicles are being added to the fleet, addressing constraints around funding models and charging capacity remains a challenge.
- Full fleet transition will need to address significant constraints around physical space and grid charging capacity.
- Home and agile working have led to significant reductions in commuting and business travel miles, further reductions will be restricted by requirements of staff to be on site. For these journeys modal shift to public transport, active travel and ULEV vehicles all have different challenges to address.
- We continue to develop our ULEV strategy and work on collaborative procurement arrangements for ULEV.
- With all refuse vehicles coming towards the end of their working life at the same time and suitable EV vehicles not available in all categories and restricted space at the existing Depot not allowing for sufficient charging infrastructure, we have been forced to opt for diesel replacement vehicles.

6.2 Nature Based Solutions *(Proportion of Footprint: -4%)*

(Received by Climate Group 8.3.24)

Carbon Data

	tonnes CO2e/year
Forest land	-2,350
Grass land	-55
Settlements	919
Nature Based Solutions Total	**-1,486**

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

-4% (is ***net negative*** because it removes carbon from the atmosphere by absorbing it into habitats and storing it)

What does the transition include?

Nature Based Solutions cover the carbon impact of all our land holdings, including both natural and developed areas.

Where do emissions come from in this Transition?

There are two main elements to the carbon impact of our land holdings:

- **Carbon Sinks** are the total amount of carbon stored in plants and soil.
- **Carbon Sequestration** is the annual net change in the amount of carbon stored in carbon sinks.

Using sequestration for large scale carbon offsetting is not a viable way of achieving Net Zero, as ecosystems do not have unlimited capacity to remove carbon from the atmosphere. The main role of nature based solutions will be balancing a small residue of unavoidable emissions that there is currently no way to decarbonise. It is also worth noting that nature based solutions will continue to cool the planet long after the other transitions are completed, therefore, their long-term impact is much larger than their contribution to Net Zero 2030.

Protecting our existing carbon sinks is a vital element of this transition, the potential carbon impact of the release of even a tiny proportion of these carbon sinks through land use change is enormous. NRW estimated that the total carbon stored on their estate is 309 times their annual carbon sequestration.

We currently only have data covering 53% of our landholdings, although these likely make up a much higher proportion of our total sequestration because they include many of our largest wooded areas, which have the highest sequestration potential.

How do we intend reach Net Zero?

There are three main types of nature based solutions:

- **Protect.** Avoid emissions by protecting existing habitats from land use change.

- **Manage.** Enhance carbon sinks and increase sequestration from existing land types.
- **Restore.** Restore native conditions of habitats to increase sequestration.

It is important to note that while nature based solutions have real carbon benefits, the benefits to biodiversity and well-being are greater. Therefore, carbon calculations should not be allowed to disproportionately dominate decision making about how and where nature based solutions are delivered. This is reflected in the maxim 'right tree, right place, right reason', just planting as many trees as possible will not achieve the best outcome for nature, in some situations other habitat types are more appropriate.

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Sequestration Data & Mapping	N1	Bring together and optimise existing internal and external information and mapping (supported by wider corporate GIS improvements) to give better understanding of our current sequestration position and the potential for further development.	GIS and other data give us strong understanding of opportunities for nature based solutions across borough in woodland, peat and other habitats.
Policies impacting Nature Based Solutions	N2	Strengthen existing actions and policy with specific reference to, and targets for, carbon sequestration/climate impact, including the replacement Local Development Plan.	Policies across council impacting Nature Based Solutions are strengthened and include explicit assessment of climate impacts.
Renewables & Nature Based Solutions	N3	Investigate the potential for renewable energy projects to also improve carbon sequestration and how this could be integrated into future schemes	Renewable energy schemes in BG are designed to also maximise benefits to nature.
Carbon Impact of Planning	N4	Include explicit references to, and /or figures for, carbon impacts as part of environmental assessment of planning proposals	Environmental assessments of planning proposals include explicit assessment of carbon impact
Land disposals/ acquisitions and Nature Based Solutions	N5	Ensure that carbon impact of land-use changes and disposals/acquisitions in our own estate are assessed and where possible put in place specific carbon sequestration requirements e.g. requirements in leases and community asset transfers	Requirements in place to protect and enhance carbon and nature benefits whenever council acquires, disposes or changes use of land

Enhancing Carbon Benefit of Our Land Holdings	N6	Investigate potential for programmes enhancing carbon sequestration and biodiversity from specific land-use types in our estate. e.g. schools, business parks.	Council land holdings managed to maximise benefits to climate and nature, with programme of improvements to further enhance climate and nature value

Our challenges, opportunities and risks

Large scale tree planting is an important element in most proposed responses to the climate emergency. National government are setting ambitious targets, Welsh Government target is for 86 million trees in the next decade. Our current activity in this area is largely based on a reactive approach with a focus on maintaining existing provision and meeting legal standards, reflecting current levels of resourcing. Our Tree Policy aims for 'zero net loss of trees under our control within any 5-year period' and to take advantage of any opportunities that may arise to increase this coverage, which reflects the level of resources currently available. Across Wales and England the levels of forestation have remained largely unchanged for the last 20-30 years, despite ambitious paper targets for increases (Scotland has achieved significant increases in the same period through significant policy change). Blaenau Gwent currently has tree coverage above the Welsh average.

It is important that actions are driven by wider range of factors than just the number of new trees planted. Unfortunately, there are many examples of mass tree planting schemes with extremely high failure rates, and even if trees do not die there is still significant potential for variation in the carbon performance dependent on the type of planting and management, in addition to variable impacts on biodiversity. There are also significant carbon benefits to enhanced management of existing trees and other habitat types. The core woodlands management budget is £25-30k per annum. The reality is that this budget can cover emergency work only and probably not all of this.

Mostly our activity is based on external funding and as a result reflects the priorities of these programmes, the largest being Greater Gwent Green Grid. They both include direct tree planting and other activity that does has a sequestration impact, but sequestration is not the explicit purpose of the activity.

We mainly operate from individual management plans for nature reserves. This could lead to potential opportunities being missed, such as landholdings outside of these areas, and also the cumulative impacts of habitat types such as grassland or highway verges. The Blaenau Gwent Nature Recovery Action Plan, currently being developed, may help to address this.

Peat covers only 3% of the world's land but stores one-third of all soil carbon. The carbon it contains is highly vulnerable. Undamaged peatland sequesters carbon, but damaged peatlands are often net emitters. Currently we have limited understanding of our potential for peatland restoration and any development on peatland could have very significant negative carbon impacts.

Local Places for Nature Project Delivery

- ***Community Orchards.*** Creating six community orchards (Total 30 fruit trees- min of five trees on each site): Henwaun Street Allotments, Mount Pleasant Estate, Gwaun Helyg Rd, Pentref Tyleri, Southlands-Blaina. There will be native wildflowers and bulbs being underplanted at some of the orchard sites.

- ***Grassland networks project.*** Nine round-abouts enhanced by installing wildflower turf that is species rich with native wildflowers. Species poor roundabouts were selected. A profihopper was purchased to help with manging our existing grassland sites and restoring other grassland sites which have low species diversity. This piece of equipment is versatile and for year-round use: Spring, scarifying (to prepare a receptor site for native wildflower seed sowing). Summer to Autumn- mowing (cut and collect, the machine also collects cuttings to ensure any arisings are not left on site so that they compost back into the soils and create nutrient rich soils. Wildflowers need nutrient poor soils).

  By managing our grassland sites, we will help to increase the flowering diversity of a site ensuing it becomes species rich. We will also increase the extent of good quality grassland habitats making them more ecologically connected, increasing ecosystem resilience. Conservation practices such as implementing alternative cutting regimes can enhance a grasslands carbon sequestration potential and help protect these ecosystems from further degradation.

- ***Barn owl project.*** 28 boxes installed across serval sites within Blaenau Gwent. Barn owls are indicator species for open farmland and rough grassland. If owls are in decline, it is normally a result of a decline in their habitats. This is also a warning sign that other species dependant on this habitat may also be underthreat.

- ***Community gardens and growing spaces.*** Planned green space at Glyncoed which will include butterfly banks, native hedgerows, fruit trees, amenity area, wildflower planting. Funding biodiversity recommendations for Flying Start Hubs. Biodiversity enhancements on 4 allotment sites: Henwaun, Westside, Southend and Glanffrwyd.
- ***Woodland management.*** Woodland management including selective thinning and planting will be carried out Autumn/Winter 24/25. A healthy woodland ecosystem plays an important role in mitigating against the effects of climate change. By creating woodland that has varying structure, age and composition will benefit ground flora, shrub undergrowth and will also create healthy soils. This will ensure the woodland remains resilient to pest and disease and the effects of climate change.
- ***Wetland project.*** Being delivered at Tredegar Sports Centre, preventing water from flowing outside designated drainage channels. Also installing biodiversity enhancements such as supplementary planting with native species to provide a wetland habitat.
- ***Rain Garden.*** Lakeside (the Workshops), rain water capture which will feed into raised bed area.

Future Project Under Development

- ***Lepidoptera Landscapes.*** Objective: Collaboratively work across the Blaenau Gwent and Torfaen LNP (Local Nature Partnership) area, demonstrating a landscape approach, to create and enhance resilient ecological networks that will contribute to the recovery of butterfly and moth species, and those species which are indicators of good quality habitat. Which in turn will promote nature recovery and contribute to net zero carbon. This will be a LNP flagship project.

  Draft Aims

  - To improve the Diversity, Extent, Condition, Connectivity and Adaptability of 5 habitats that are important for 57 butterfly and moth species in each LA area
  - To enhance 8 green spaces for butterflies and moths each LA area
  - To create habitats for key protected indicator species e.g. bats roosts (*BHAP ex toilet block to be potential bat roost).
  - To connect people: Biodiversity Schools project/Big Butterfly count/Engage with people to create wild spaces, collaborate with other partners/organisations/ Community events
  - To monitor sites- Link in with NRAP objectives

6.3 Procurement Goods *(Proportion of Footprint: 14%)*

Procurement Goods Focus (Received Climate Group Meeting April 2023)

Carbon Data (19/20 Baseline)

	tonnes CO2e/year
IT & Office Machinery	2,149
Equipment and Furniture	1,173
Food and Drink	958
Machinery	355
Paper and Printing	202
Soap and Cleaning Materials	67
Water Supply	46
Glass and Metal Products	32
Clothing	19
Procurement Goods Total	**5,001**

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

14%

What does the transition include?

What we purchase as an organisation and includes key items such as clothing, food, IT, machinery, equipment and furniture.

Where do emissions come from in this Transition?

See data above, these figures are ***spend based emissions*** calculated from our financial spend and national average carbon intensity factors. These factors are the average amount of carbon emitted per pound of money spent in each of these categories. While spend based emissions can give a reasonable estimate of the relative contributions of different product categories to our carbon footprint, they cannot accurately detect changes in our performance from year to year. As a result, we will not update our spend-based emissions figures on an annual basis and will use alternative measures to show our progress towards Net Zero in this transition, drawing on existing data from other organisations and studies.

How do we intend reach Net Zero?

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Embedding Carbon in Procurement Policy	PG1	Make decarbonisation a key component of revised Procurement Policy, including clear statements of key elements such as whole life costs, end of life arrangements etc.	Minimise carbon impact of procurement by making whole life costs and circular economy principles important element of procurement process.

Decarbonising Procurement Adopted as Priority for Corporate Decision Making	PG2	Formally adopt decarbonisation of procurement as a priority at a corporate strategic decision-making level, including, Strategic Commissioning and Commercial Board which considers all contracts awarded over £75,000 and Medium Term Financial Strategy.	Minimise carbon impact of procurement by making whole life costs and circular economy principles important element of procurement process.
Carbon Impact of All Significant Contracts	PG3	All significant contracts (above £75,000 SCCB threshold, with discretion to include lower value if good reason to believe will have significant carbon impact) should identify what the most significant carbon impact(s) are from the contract. Wherever possible we should identify suitable benchmark target(s)/criteria to measure performance against, and where possible/relevant this should be incorporated into contract criteria.	In all major procurement decisions, the most significant carbon impacts are identified, and targets are set to monitor performance
Engaging Local Suppliers with Climate Change	PG4	Develop long-term engagement plans to grow decarbonisation capacity of (local) suppliers in key areas.	Actively support local providers of low carbon products in key areas
Procurement Decarbonisation Deep Dives	PG5	Ongoing programme of decarbonisation initiatives targeted at key procurement areas, supported by additional resources to explore supply chains and develop specific actions/plans. These deep dives could be initiated through Annual Procurement Review. Service areas should be encouraged to develop relevant proposals.	We have significantly reduced carbon impact of all major types of goods purchased based on detailed understanding of our needs and supply chains

Our challenges, opportunities and risks

- Carbon footprint calculations for large construction projects are becoming more common and Welsh Government is encouraging this type of reporting. However, for most procurement decisions it is not possible to produce a single definitive carbon figure but it should be possible to produce a decarbonisation benchmark for most decisions.
- General principles around circular economy are relevant across all our procurement but will require specialist knowledge of officers working in specific service area to apply them.

- In many cases we are already doing things in procurement that reduce carbon, we need to make sure that we promote awareness of decarbonisation principles and ensure having meaningful impact on decisions.
- Sweating assets and minimising material throughputs is good for decarbonisation and finances.
- Not all decarbonisation options will lead to immediate savings, the challenge of higher up-front costs for longer lasting products is a familiar one.
- Need to make time/resources available to look at the bigger picture of procurement not just single purchasing decisions and make sure we review and strengthen impact/quality of decarbonisation decision making.
- Deep dives are the key to understanding the impact but need to identify format and resources required.
- Role of collaborative procurement, do we understand carbon impact of regional and national procurement arrangements, and can we influence them where needed?

Current Status of Transition

Carbon is built into reports on procurement for Strategic Commissioning and Commercial Board and supporting guidance developed.

Net Zero is part of revised Procurement Policy.

Carbon Reduction Plan required from suppliers for contracts above £5million. https://www.gov.wales/wppn-06-21-decarbonisation-through-procurement-taking-account-of-carbon-reduction-plans-html.

Welsh Government is encouraging all Public Bodies to, where possible, start moving beyond current Tier 1 spend based reporting of carbon emissions, which are not suitable for monitoring the impact of our actions, to Tier 2 reporting based on carbon data from suppliers. However, outside of substantial construction projects this is unlikely to be possible and/or proportionate to the level of effort required, certainly in the short to medium term. Therefore, Tier 2 reporting is most immediately relevant to the Procurement Construction Transition. This transition will require an alternative approach that does not require complex calculations of the definitive carbon cost of every product we procure.

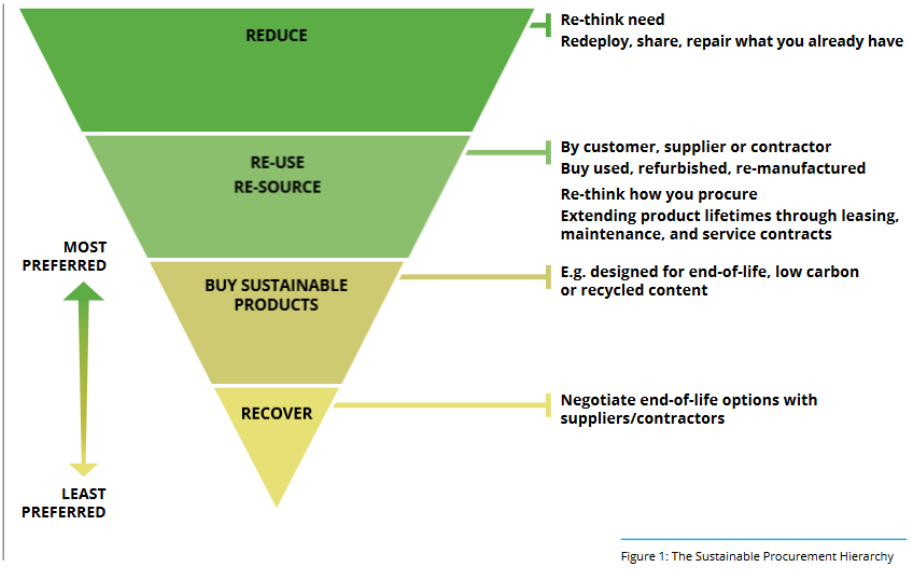


Figure 1: The Sustainable Procurement Hierarchy

This alternative approach will be based on the sustainable procurement hierarchy. As the hierarchy shows choosing low carbon products will likely not be the main method of addressing carbon in procurement. The simplest way to think about the procurement hierarchy is that it aims to reduce both the volume of new materials entering our operations and the volume of material leaving the system as unrecoverable waste. Both elements have carbon costs because of the resources and energy needed to produce new, and tied up in existing, materials. This is the basis for the circular economy, keeping the same materials in circulation being reused for as long as possible.

In many cases we may already be taking actions in line with the procurement hierarchy because reducing material and energy consumption will also lead to financial savings. There are also potential benefits that increased use of hire and leasing arrangements reduces upfront cost of procurement. However, in other cases there maybe increase costs associated with more durable and/or lower carbon products.

Options for Next Steps *(Approved by Climate Group)*

Measuring Progress – Alternatives to Spend Based Emissions

Decarbonisation Benchmarking

A decarbonisation benchmarking approach would be based on identifying a relevant, easy to measure, benchmark that serves a good indicator to the largest carbon impact of that procurement exercise without requiring complex calculations or detailed technical specifications. For example, the exact carbon footprint of our laptops is very difficult to calculate given the range of materials and supply chains involved, but much simpler measures such as their energy efficiency certificate and their active use life span capture major elements of their overall carbon impact. Benchmarks of this type (other examples could include all lighting be LED, % of recycled material used in product, % of products that reused/refurbished etc.) would form the basis of reporting for this transition.

All procurement reports no include a questions about decarbonisation, it is proposed that identifying a decarbonisation benchmark and a review date to check that benchmark achieved should be key elements in answering this question. These Decarbonisation Benchmarks should be based, where possible, on publicly available information about current standards in the relevant sector and should represent an ambitious target rather than a minimum level. The Local Authority Sustainability Procurement Toolkit also provides many examples of potential benchmarks. These benchmarks could also be a decision-making criterion in the procurement process, by requiring contracts to meet the benchmark standard and giving credit to those who go beyond this standard.

As an initial pilot all goods contracts over £75,000 would be required to identify a Decarbonisation Benchmark from now on (there are typically around 12 contracts annually of this type), with the intention of expanding this to all goods contacts over £25,000 as soon after this initial phase as possible.

1. **All procurement reports for goods orders over £75,000 (where a carbon impact identified) to include a Decarbonisation Benchmark, expanding to all goods orders over £25,000 after initial phase.**

2. **Where a Decarbonisation Benchmark identified should be part of specification and/or used as a selection criterion.**

Benchmarking Workshop

Assessing the decarbonisation implications of procurement and setting benchmarks will be a learning process. Guidance on the general principles of circular economy and reducing material and energy consumption in this transition can assist officers with the reporting template. However, given the range of things that we buy there is not a one size fits all model for decarbonising procurement across the authority. Decarbonisation Benchmarking will be informed by officers' knowledge of their own areas of work. It is also worth recognising that we are already taking actions that reduce the carbon footprint of our procurement. Both with explicit reference to climate change, and because officers are already taking actions that reduce material and energy consumption from procurement for non-climate reasons including cost savings.

To kick start the learning process around completing decarbonisation reporting requirements and benchmarking for procurement, we will organise a workshop with procurement and service area staff identified as being involved in relevant upcoming procurement activity. This would provide an opportunity for staff to come together to discuss how reporting and benchmarking would work, by looking at upcoming procurement exercises and to share examples of past specifications that have reduced carbon impact.

3. **Hold workshop for staff who likely to be involved in producing procurement decarbonisation reports and benchmarks.**

Reporting

Important not just to collate procurement decarbonisation benchmarking for annual report but also to assess collective impact and to drive improvement, share good practise and track financial impact of decarbonisation actions. Recognising as a new area of work, reporting will not be perfect immediately. Therefore, it is important to look at the overall picture of activity and helping to strengthen quality of reporting over time. Also integrate decarbonisation into the forward-looking processes such as the Annual Procurement Strategy, so incorporate carbon as well as financial impact of planned activity.

4. **All Decarbonisation assessments and benchmarks should be collated on ongoing basis for Annual Net Zero 2030 Report and reviewed by Climate Group and/or Strategic Commissioning and Commercial Board.**

5. **Make Decarbonisation integral part of forward planning process for procurement.**

Deep Dives

We cannot rely solely on assessing procurement on a case-by-case basis to reach Net Zero. Decarbonising procurement is about more than just choosing the lowest carbon product at the time of purchase, other factors such as how the product is used and how long it lasts can be more impactful on our carbon footprint. We can take a more systematic look at how to reduce this carbon impact through a deep dive into the product categories identified as making the greatest contribution to our carbon footprint (see table above). The same principles still apply to these deep dives, that this does not necessarily require complex

carbon calculations, in the first instance we should look to apply publicly available carbon information to understand where we can have the greatest impact. An initial pilot will help to understand the time and resources needed to conduct deep dives and implement the changes identified.

6. **Scope and carry out deep dive into one of our highest carbon impact product types, possibly computing and other appliances.**

6.4 Procurement Services *(Proportion of Footprint: 37%)*

Carbon Data (19/20 Baseline)

	tonnes CO_2e/year
Social Care and Health	5,845
Education	3,806
Pensions/Investments	1,461
Public Administration	1,431
Legal and Consultancy Services	590
Computer Services	145
Post and Telecommunications	120
Miscellaneous	95
Procurement Services Total	**28,640**

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline
37%

What does the transition include?

This transition includes the emissions related to services that are delivered by us, or on our behalf.

Where do our greatest emissions come from in this Transition?
The three largest emissions sources within this transition are social care, schools and pensions. The high emissions in this transition are mainly the result of a high volume of low carbon intensity actions. As a result, the source of the carbon emissions in this transition are less concentrated in hotspots, and the level of influence that we have over many of these emissions is significantly lower, than for other transitions.

How do we intend reach Net Zero?

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Supplier Climate Pledge/Commitment	PS1	Initial engagement with suppliers to raise awareness of, and secure commitment to, decarbonisation via signing of pledge/joining scheme (ideally one also being used by other Welsh public sector bodies).	Engaging with suppliers to reduce the carbon impact of services they provide to us
Social Services Supplier Climate Engagement	PS2	Social services to undertake long-term engagement to support suppliers to build their capacity to decarbonise key areas of their operations, such as transport and energy.	Social service providers making good progress towards Net Zero from their energy use and transport.

Education Supplier Climate Engagement	PS3	Education to undertake long-term engagement to support schools to build their capacity to decarbonise key areas of their operations, such as transport and energy.	Schools have good understanding of their carbon footprint and working together to achieve Net Zero
Local Renewable Supply (Non-estate)	PS4	Investigate the possible benefits of Power Purchase Agreement to secure low carbon electricity by directly investing in renewable generation supply, with clear emphasis on local capacity and links to Energy Prospectus.	Supporting renewable generation schemes in Blaenau Gwent, with emphasis on community ownership, including through purchase of zero carbon electricity for use by council
Pensions Carbon Impact	PS5	Consider whether we should ask the Greater Gwent Pension Fund to develop a more proactive approach to accelerating the transition to Net Zero through its investment strategy, such as divestment policy. Starting with requesting position statement from Greater Gwent Pension Fund.	Pension contributions are not supporting fossil fuel extraction and are supporting local investment in Net Zero projects

Our challenges, opportunities and risks

Decarbonising social care providers and schools transport and energy use are key to this transition, but this will be very challenging for many providers, requiring long-term engagement and support.

Collaborative procurement is very important. The Gwent Regional Partnership Board plays an important role in social care, foster and domiciliary care big element of this. Already perhaps 20-25% via collaborative procurement and this is only going to increase in coming years. We are midway through an 8-year contract with Caerphilly. Cross authority procurement of services helps to avoid duplication (reducing inefficiencies and carbon impact), providers have single point of contact which helps with engagement on issues such as decarb, and also builds resilience in system, for example, where we need cover for transport.

Domiciliary care is a big area due to transport for carers. Due to the geography of Blaenau Gwent we are able to commission local care staff and create walking rounds wherever possible. However, Covid has shown the limits to this, sometimes carers need to travel by car. Beyond this there are already cost pressures from achieving the real living wage, we will need to support providers to seek capital investment into things like electric cars.

Probably the case that the market is not currently ready to respond to the decarbonisation agenda.

We have had contact from care homes about whether they can join LA purchasing to achieve savings on energy bills, there could be a green element to this if developed. Similar approach could be applied to engaging with care homes supply chains and building local resilience across other decarbonisation issues, e.g. food. This is something that will require planning and capacity to engage providers.

Re:Fit is important element of schools transition. Recognise that uptake has been low in the past, think that the future revenue implications were the concern for schools. A contributing factor here may have been that last round came at a time of high turnover in school management, heads may not have wanted to leave this cost legacy for the next regime. Feel that improving relationship with school management means that better placed for future rounds. Also important that schools get quality of information to understand impact of Re:Fit, including separating out cost and carbon impacts, particularly given rising energy prices. Larger WG capital programmes are planned processes, think decarbonisation can/will be built in.

Almost all schools are part of maintenance SLA. We have a good understanding of our estate in this context, programmes of maintenance and minor works in place. On New build there have been returns to WG with Net Zero proposals at Glyncoed and Welsh medium school.

There were already a limited number of suppliers for home to school travel prior to COVID, they have been badly hit by the collapse of demand for buses during the rest of day due to the makeup of contracts for morning and late-afternoons only, which means that companies lost a lot of drivers as they can only offer limited hours. The lack of suppliers also constrains our ability to optimise routes. This is before considering again the issue that largely local suppliers so constrained in awareness of, and ability to invest in, ULEV vehicles as they come on to the market.

The Greater Gwent Pension Fund adopted a Climate Change Policy in 2019, which outlines that their 'overall policy objective is to lower the 'carbon footprint' of the greenhouse gas emissions of our investments, so that we are either in line with or, ideally, below the international targets to keep global warming well below 2°C.' Ultimately, we do not directly control either policies or investment decisions of the Pension Fund, but we are represented on the Board along with other public sector partners, so can continue to influence following recent resolution passed by council.

6.5 Procurement Works *(Proportion of Footprint: 10%)*

Carbon Data (19/20 Baseline)

	tonnes CO_2e/year
Construction and Maintenance	3,544
Procurement Works Total	**3,544**

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

10%

What does the transition include?

This includes the life cycle embodied emissions from the construction, maintenance and demolition of our buildings and other infrastructure (e.g. roads) (it does not include the energy use from the operation of our buildings which is part of the heat and electricity transitions).

Where do emissions come from in this Transition?

Most procurement works emissions are associated with capital expenditure with external contractors on major construction projects. The life-time embodied energy in complex commercial buildings may be equivalent to 30 times their annual operational energy use. There are several different elements to these emissions including: embodied emissions (the emissions associated with the energy used in the manufacture of products), product miles and material throughput (the total volume of material used). Actions which reduce emissions related to one element do not automatically reduce other elements or buildings direct energy use, in fact they may even increase emissions from another element. Which is why a whole life-cycle understanding of carbon impacts is important.

How do we intend reach Net Zero?

There are two main ways we can address these life-cycle emissions. Firstly, we can use our (and collective public sector) purchasing power to encourage the market to move towards low carbon options (including as a first step making information about life-cycle emissions available to purchasers). Secondly, where possible to reduce our total consumption, this could be total material throughput or product miles.

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Impact of major construction projects on territorial climate emissions	PW1	Assess the impact of major projects on territorial emissions in Blaenau Gwent e.g. projects that will create significant new energy use or travel demand outside of our own organisational footprint.	All major construction projects are planned to minimise emissions for energy use and travel demand during their lifetime operation

Net Zero New Build	PW2	Commit that all new builds will be designed and constructed to Net Zero standards. Only in exceptional circumstances will projects proceed without the requirement being met. Where the standard has been judged to be unachievable, the barriers will be set out in detail in writing.	All new builds designed and constructed to Net Zero standards
Carbon Costs of Building and Maintenance Works	PW3	Commit to consider carbon costs (the emissions associated with undertaking works and future energy use) in procurement of building and maintenance works, including setting appropriate carbon standards. Integrated into decision making as part of procurement review.	Life cycle costs and circular economy principles inform building and maintenance budgets and programmes to minimise carbon impacts

Our challenges, opportunities and risks

- Significant progress is being made on improving the carbon performance of our new buildings. However, there are still a number of challenges:
- Funding requirements have an impact. Funders have negative reactions to the higher costs of zero carbon build. Tight deadlines significantly constrain innovation. Both short lead in and tight spend profiles mean that we are often condensing design processes more than we would like at moment.
- Need to look at lifetime use of building. There are also potential costs to occupiers in long term. New tech requires maintenance, especially as these are often new systems.
- Already concerns about the number of companies and people with the skills to carry out this work. If large number of organisations start to carry out similar decarbonisation work at the same time, then costs will rise and capacity may not meet demand.
- Measuring carbon impact is not straight forward, and there is not a clear single definition of what it means to be a zero-carbon building. Reliant on emerging national guidance and product information.
- For existing buildings incorporating these life-cycle factors into decision making will have financial implications. There is a strong downward pressure on costs, and this would require a culture change, especially after 10+ years of austerity. Improving any of these elements will have significant up-front costs, even when there are long-term savings.

6.6 Electricity *(Proportion of Footprint: 11%)*

Transition Focus: Electricity

(Received: Climate Group Meeting 18.12.23)

Carbon Data

	tonnes CO_2e/year						
	19/20	**20/21**	**21/22**	**22/23**	**23/24**	**Change From Last Year**	**Change From Base Year**
Metered - Buildings	1,792	1,272	1,265	1,171	1,202	3%	-33%
Metered - Buildings Aneurin Leisure	*572*	*279*	*374*	*343*	*353*	3%	-38%
Unmetered - Street Lighting	968	870	700	642	688	7%	-29%
Electricity Total	**3,332**	**2,420**	**2,339**	**2,156**	**2,241**	4%	-33%

Over the last three years' total carbon emissions from our electricity consumption have fallen by 35%. Two important trends, which will become increasingly significant in future years, mean that the emissions figures for our electricity transition will require careful analysis.

Firstly, the move towards zero carbon electricity sources, which includes both the decarbonisation of the National Grid supply and our own generation of renewables. The fall in the carbon intensity of grid electricity (the amount of carbon produced per unit of energy) is responsible for most of the carbon reduction since the base line year, our underlying energy consumption fell by 6.5% over the same period. (In this context it is worth noting that the average carbon intensity of the UK grid increased for the first time since 2013 this year due to increased reliance on gas fired power stations, which will be reflected in our footprint next year). Our own renewable generation is reflected in our reduced use of grid electricity as a result. To give an idea of scale our current renewable generation is equivalent to 3.2% of our total annual grid electricity consumption (some of what we generate is exported to the grid, but we use the majority ourselves) or enough to power 108 average terraced homes for a year.

Secondly, we can expect to see our total electrical energy consumption rise over time as heat and transport become increasingly electrified. This process is already underway with the installation of charging points for out fleet and with the conversion of school kitchens from gas to electric cooking. In both cases these represent overall carbon savings for the council, but they will involve increased energy use and carbon emissions within the electricity transition. These increases are likely to be quite modest currently, but they are likely to become very large in future years, which will require separation of these different trends to understand our underlying performance.

Note on Zero Carbon Electricity: Currently all the electricity we procure is certified as 100% renewable through REGO (Renewable Energy Guarantees of Origin) scheme. However, the REGO scheme is based on the supplier purchasing certificates proving that renewable electricity has been fed into the grid by a generator, it does not mean that the council

receives that renewable electricity so does not count towards out carbon footprint. If the renewable electricity were purchased directly, via a PPA (Power Purchase Agreement), either by the council directly or by our energy supplier, this would allow us to count our electricity use as Zero carbon, but this is more expensive than REGO supply.

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

11%

What does the transition include?

All electricity used by council buildings and infrastructure.

Where do our greatest emissions come from in this Transition?

Around 70% of our current electricity use is associated with our buildings, with the other 30% from street lighting. As detailed above this is likely to shift significantly over time.

How do we intend reach Net Zero?

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Carbon Impact of Devices that use electricity	E1	Commit to using carbon data (energy standards and life-cycle costs) to inform procurement decisions. Review Procurement Strategy and arrangements to align to the Council's Zero Carbon commitment.	All electrical devices used by council meet high energy efficiency standards and purchasing decisions minimise life cycle costs
Street Lighting Decarbonisation	E2	Street Lighting Strategy – Develop a plan and targets for future energy reductions including reaching 100% LED lighting no later than 2030.	Energy use from street lighting minimised through use of LED etc.
Maximising Renewable Generation on our Estate	E3	Zero Carbon Electricity. Develop a plan and targets for ensuring the Council maximises its use of renewable energy, through installing renewables.	Generation of zero carbon electricity on council estate maximised on basis of clear understanding of potential capacity
Electricity Demand Reduction	E4	Energy Policy- ensure energy demand reduction is aligned to Council's Zero Carbon commitment.	Electricity demand minimised through use of technology, data and behaviour change

Action Updates

E1- Carbon Impact of devices that use electricity.

This action is being addressed as part of the procurement deep dive into computing and IT that is currently underway. Data about our current equipment is being collated at the moment, but some more general trends to inform this analysis have been identified. For IT equipment typically around 85% of the lifetime emissions are embodied emissions from the manufacture and shipping of devices, and just 15% from electricity consumption while in use. For this reason, although the energy efficiency of devices is important, by far the most impactful element is embodied emissions. Similarly, the largest potential savings are not from switching from one model of device to another but in reducing the total number of devices and the frequency with which they are replaced. As a result, many of the actions in this area that will save carbon are also actions that we are already taking to achieve financial savings and improve service efficiency.

E2 – Street Lighting Decarbonisation

- Just over 12,000 streetlights Borough wide
- Of which, approx. 65 – 70% are LED – once we have our full inventory will be better placed to be more accurate (see note below)
- Previous years savings proposals mean we currently have the following switching regimes…
    - Residential area – every other streetlight is switched off at midnight.
    - Main A Roads – switched off at midnight.
    - Industrial Estates – Switched off at midnight [unless specific shift pattern dictates otherwise]
    - [The above are with the exceptions of Roundabouts and junctions]
- A recent Refit Project enabled us to upgrade almost 6,500 streetlights to LED – project yet to be finalised so unable to confirm any savings made [unlikely, due to recent increase in energy prices]
- A recent £724,000 has been allocated to the Street Lighting Revenue budget to account for the recent increase in energy prices [there is still likely to be a shortfall in the region of £100,000]
- Further savings proposals have been submitted for 2024/25 [including further switch offs / invest to save options]
- We are currently waiting on inventory software provider to provide us with full inventory of streetlights, as following recent laptop upgrade from SRS no longer able to use software's report writing capabilities internally.

E3 - Maximising Renewable Generation on our Estate

This action covered in previous item 4b - Key Net Zero 2030 Action Energy. Table below shows our renewable generation from 2022/23:

Site	**kWh 22/23**
Ebbw Vale Sports Centre (Aneurin Leisure)	177,742
Silent Valley	27,244
Bert Denning Centre	19,912
Willowtown Primary School	18,116
Tillery Street	16,384
Gwent Workshops	11,793
Family Support Service	11,719
ViTCC	10,828
Six Bells Primary Campus	8,101
Total	**301,840**

(For carbon reporting purposes it is assumed that all power generated at Ebbw Vales Sports Centre is used on site, for the other sites that 50% is exported to the grid.)

E4 Electricity Demand Reduction

Demand reduction could be achieved through automation and data/performance systems to effectively reduce electricity usage, but this requires staff and resource capacity. This is currently being looked at by the Senior Energy Officer who is working with other departments to help target large consumption sites. Energy management systems are in place and being upgraded for this purpose, along with a two-year smart meter upgrade programme to comply with SMETS2 (new technical standards).

Significant potential to do a lot more with data but need to improve reliability and make sure that it has an impact on demand. Data will be shared with performance team and service areas. Also need to understand how to evaluate against relevant benchmarks such as past performance and other organisations.

We have had an Energy Policy covering this area before, but it just sat on the shelf having little or no impact on demand. Not a policy that single person or small team can roll out on their own, 1.1k staff are involved in this demand. Net Zero must be delivered organisationally; historically the appointment of Energy Champions saw some success, however given the changes to working locations of staff, this may not be as effective.

Our challenges, opportunities and risks

Generating electricity from building mounted renewables, we currently have around 350kwh of installed capacity, including work with Aneurin Leisure on Sports Centre. There can be viability issues on delivering return on upfront investment, factors such as asbestos and roof strength add costs, and some buildings unsuitable due to issues such as roof alignment.

Potentially large amounts of electricity could be generated from non-building mounted renewables. Investment could have wider community benefit for Blaenau Gwent. But there

are limiting factors around matching generation to demand, grid capacity if we do need to export energy and that many of our land holdings are potentially vulnerable to vandalism due to their location.

Significant challenges around the increased supply that will be required by electrification to achieve Net Zero for transport and heat transitions, both in terms of grid capacity and matching supply and demand. Working closely with Welsh Government towards Net Zero remains challenging specifically where directives counteract each other. The recent kitchen improvement programme, to enable the uptake of free school meal provision, will see a further 1MW of electricity demand, at a time of unprecedented high utility costs and increased non-commodity charges cost pressures are ever increasing to meet statutory requirements. Financial initiatives such as the recent Low Carbon Heat Grant needs to give further consideration to the viability of achieving Net Zero by permitting the broader use of renewable technologies to work systematically so that future uptake is greater, further assisting budgetary cost pressures.

Challenges around monitoring and use of data including timely availability or reliable data about existing consumption and at building-by-building level, the quality of meters and consistent naming/identification. Improved break down of data will be important to both accurately assessing the impacts of actions taken and in separating out from overall figures the impact of shifting patterns of carbon emissions, from electrification of heat and transport.

Our business park units are not part of our carbon footprint because they are not operated by us, but they are electricity users that we have significant influence on, project trials have been carried out through Welsh Government Whole Systems Innovation Research for decarbonisation (WBRID).

6.7 Heat *(Proportion of Footprint: 16%)*

Carbon Data

	tonnes CO_2e/year						
	19/20	**20/21**	**21/22**	**22/23**	**23/24**	**Change From Last Year**	**Change From Base Year**
Natural Gas Heating	3,942	3,725	3,483	3,512	3,335	-5%	-15%
Natural Gas Heating Aneurin Leisure	*1,152*	*798*	*1,076*	967	953	-1%	-17%
Biomass Heating	60	67	75	46	44	-5%	-27%
Heat Total	**5,154**	**4,590**	**4,634**	**4,554**	**4,332**	**-5%**	**-16%**

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

16%

What does the transition include?

Includes all energy use for heating (and cooling) space and water in our buildings.

How do we intend reach Net Zero?

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Heating Demand Reduction	H1	Energy Policy - Utilise data and controls to reduce heat demand.	Heating demand minimised through use of technology, data and behaviour change
Decarbonising Heating	H2	Develop a strategic heating Decarbonisation plan to include replacement of existing heating systems and associated retrofitting of buildings with net zero carbon alternatives by 2030 including the investment required	All buildings retrofitted (where appropriate) to improve energy efficiency and zero carbon heating systems installed
District Heating Networks	H3	District heating networks. Set date for future review of whether developments in technology allow for additional networks in Blaenau Gwent	District Heating Systems based on Zero Carbon heating technology developed where viable opportunities emerge

Our challenges, opportunities and risks

Heating accounts for most of our buildings energy emissions and is the most challenging element of our entire Net Zero journey. Gas cannot be a zero-carbon fuel, so unlike the electricity grid, it is not possible to decarbonise heating without major infrastructure changes for end energy users.

Modern condensing boilers have achieved significant carbon reductions and effective action is about more than just replacing boilers. Further significant carbon savings are possible, including some options with a positive rate of return on investment:

- Retrofitting to improve building energy efficiency with well insulated high-performing buildings.
- Optimise the use of buildings and space in them to reduce demand by integrating decarbonisation into estate strategy, agile working etc.
- Heating (and cooling) demand reduction. Technology/automation supported by staff engagement, including setting corporate standards for temperatures across estate.

However, these measures fall well short of achieving Net Zero, which will require a shift away from gas boilers. This will a step change in resources as the 2030 target requires a rate of replacement of heating systems that far exceeds current rates of boiler replacement. Alternatives include:

- Heat pumps are more efficient in providing heat per unit of energy consumed than gas boilers, but there are two big barriers to their adoption (i) gas is currently (and has historically been) significantly cheaper per unit of energy than electricity and (ii) gas boilers can produce a much greater total quantity of heat than heat pumps, so are much better able to heat energy inefficient buildings, which will often be expensive, or even impossible, to retrofit for heat pumps. Recent procurement exercises for schools found that heat pumps would be many more times expensive than a modern gas boiler.

- Hydrogen has often been proposed as a substitute fuel to replace gas, but there are significant questions about whether this will ever be technically viable at the national grid scale. The extent to which the existing gas grid would have to be modified to run on hydrogen is not clear, but it would certainly require significant changes to both the network and boilers. There are also serious doubts that powering the existing gas grid would be the most efficient and climate friendly use of hydrogen. Hydrogen may have a part to play in specific local schemes with high heating loads like major public buildings.

- Biomass can play a role in replacing gas, as it does in The Works heating network. However, biomass does not have the capacity to replace more than a small part of the total energy provided by the gas grid.

District Heating Networks, like The Works, are not a distinct technology, rather they are a way of achieving economies of scale by linking multiple buildings to a single heating system (which could be gas, hydrogen, biomass or heat pumps).

6.8 Waste *(Proportion of Footprint: -22%)*

Waste Transition Focus (Received Climate Group Meeting July 2023)

Carbon Data

	tonnes CO_2e/year				
	2019/20	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Recycled/Composted	-11,828	-11,760	-12,205	-11,504	-12,101
Waste to Energy	3,611	4,078	3,833	3,762	3,658
Landfill	0.3	0.1	0.2	0.1	.3
Waste Total	**-8,216**	**-7,682**	**-8,372**	**-7,742**	**-8,433**

Note: The percentage change calculations for waste have been removed because the figures would be misleading as our aims pull the carbon figure in two directions. Increasing the proportion of material recycled leads to greater carbon savings, but reducing the volume of waste means there is less material to be recycled. Ultimately the aim for this transition is for the total figure to reach Zero when Zero Waste is achieved, rather than generating ever increasing negative figures.

Transition emissions as a percentage of our 2019-20 Carbon Footprint Baseline

-22% (the carbon savings from treatment of municipal waste are equivalent to 15% of our total carbon footprint)

What does the transition include?

This transition includes the emissions associated with the treatment of municipal waste collected by the authority.

Where do emissions come from in this Transition?

These emissions are an estimate of the net carbon impact of the treatment of the municipal waste we collect. Landfill is by far the most carbon intensive method of disposal, but only a very small fraction of our waste is landfilled. Recycling/composting save carbon by eliminating the need to use new materials in manufacturing. Waste to energy releases carbon, but overall, our waste has a significant negative carbon impact.

	Recycled/Composted		**Waste to Energy**		**Landfill**	
	Tonnes	**tCO2e**	**Tonnes**	**tCO2e**	**Tonnes**	**tCO2e**
21.22	19,955	-11,827	11,158	3,611	0.65	0.37

Technically these figures are not part of our Welsh Government Net Zero Public Sector carbon footprinting. This is because this carbon saving contribution towards Net Zero is captured in the carbon footprinting of other organisations who treat the waste, so including it in our footprint would be double counting. However, how our municipal waste is treated is still an important element of our overall contribution to Net Zero.

The waste related emissions reported in our carbon footprint are very small. We estimate that the waste we generate ourselves is around 5% of the total volume of municipal waste. The footprint also includes a small quantity of emissions associated with the onward transport of waste after collection for disposal. (The emissions from our refuse fleet are significant but are part of the transport transition).

How do we intend reach Net Zero?

Reaching Net Zero means achieving Zero Waste. There is a close alignment in this transition between carbon reduction and existing service priorities and targets. As a result, as the table below shows, there has been significant progress in recent years in reducing the carbon impact of our waste, although gains have plateaued in the last couple of years.

Year	Waste Tonnes	Recycled/Composted	Waste to Energy	Landfilled	Carbon Saving
16.17	31,537.20	56.9%	43.1%	0.0007%	-4,076
17.18	31,661.22	57.7%	42.2%	0.0008%	-4,847
18.19	30,044.09	59.8%	40.2%	0.0017%	-7,421
19.20	31,138.92	64.1%	35.8%	0.0021%	-8,215
20.21	31,410.26	62.0%	37.7%	0.0021%	-7,682
21.22	30,866.42	66.0%	34.1%	0.0021%	-8,372
22.23	30,856.47	67.6%	33.3%	0.0014%	-7,742
23.24	31,901.13	67.9%	32.1%	0.0018%	-8,443

Action Area	Ref	High Level Action	What Does Net Zero 2030 Look Like?
Zero Waste – Carbon Impact	W1	Zero Waste. Deliver Waste Management and Recycling Strategy	Achieving or exceeding Welsh Zero Waste Targets, with increased use of 'closed loop' operations and 'up-cycling'
Carbon Impact of Onward Waste Transport/Treatment	W2	Minimise environmental impact of onward treatment of waste	Onward transport of municipal waste for treatment minimised
Carbon Impact of Commercial Waste Service	W3	Commercial Waste Service. Develop upgraded service.	Achieving or exceeding Welsh Zero Waste Targets
Promoting waste reduction with households	W4	Develop stronger 'reduce' element to household waste communication	Significantly reduced volume of waste entering municipal waste stream

Our challenges, opportunities and risks

Progress has been the result of actions at the bottom levels of the waste hierarchy (below), which correspond to 'traditional' local authority municipal waste activities around the point of disposal. Further progress is possible through continued activity to increase the range of materials than can be recycled and behaviour change to ensure that residents recycle all the materials they can and contamination of waste is minimised.

However, the volume of waste entering the system has remained essentially unchanged. Achieving Zero Waste will require actions at the top levels of the waste hierarchy, which tends to involve moving further upstream in the waste process, where local authority waste services have less direct influence. This requires new activity related to the circular economy, which we are now moving into but does not have the same established policy and budget frameworks.

The Climate Assembly demonstrated strong public support for action in this area:

Establish local Repair hubs to Re-use/re-purpose/upcycle items.	79

Currently activity is concentrated on maximising reuse of material that has entered municipal waste system (e.g. new reuse shop). There is a lot that could be done prior to waste being thrown away (which could drive further public engagement), including the type of hubs suggested in this recommendation (these could potentially be linked to community hubs and/or town centre development) and engaging with local business about reducing material use/waste as well. Some work has been done in these areas when funding is available, such as the local repair directory, but there is not currently a dedicated plan or resource. It may also be that other organisations are better placed to deliver some of this work.

Nationally the total volume of commercial waste is more than 50% greater than the volume of domestic waste, but the recycling rates are much lower. Potentially Local Authorities could play an important role in this element of this transition as well, and in doing so might also improve the recycling rate for municipal waste overall, but at the moment there are substantial regulatory barriers to this. If national government were to give Local Authorities greater role in business waste, then would have resource implications for the increased collection capacity required.

We have upgraded our commercial waste offer in line with Welsh Government legislation, although due to the COVID pandemic the introduction of this legislation has been extended from October 2021 to March 2024, with limited enforcement initially. Now we are segregating into three waste streams (paper/card; plastic/metal; glass) and since May 2021 operating two new vehicles to collect. At the beginning there was a lot of contamination, as historically there has not been the same drive as with home waste for behaviour change. We have clamped down on side waste and limited bin size, if customers can't fit their waste into existing bins then they are told they need to pay for larger collection. We are looking to expand our customer base and offering.

There are financial implications if the authority does not achieve the statutory recycling target of 70% in 2024/25 it could face financial penalties from Welsh Government of £200 per tonne for every tonne under the target.

Over several decades a model for waste has built up that focuses primarily on the point of disposal, as a result individual members of the public and local government are identified as the main responsible actors, with business producers disappearing from the picture. There is now increasing emphasis on producer responsibility, for example, through Welsh Government initiatives such as the plastic bag charge and potentially encouraging producer responsibility for recycling packaging from their products.

We are seeing an increasing amount of material being diverted into the reuse shop, but the reality is that a lot of bulky items are not in reusable condition and finding ways to divert them from Viridor (waste to energy) to recycling is not easy. There is limited market capacity in the UK, and even for items where providers are becoming available such as mattresses and carpets, the storage of items to keep them in acceptable condition for recycling prior to onward transport is challenging.

Only the initial onward journey of waste is part of our footprint, but it is only one factor in the total carbon impact of waste treatment. We currently prioritise ensuring that wherever possible waste is not taken outside the UK, rather than just the initial journey distance, and full audit trails of the entire process are submitted to Natural Resources Wales. The market is the biggest factor in where and how waste is treated. The Welsh Government is seeking to address the low level of domestic treatment capacity.

Current Status of Transition and Next Steps

W1 Zero Waste. Deliver Waste Management and Recycling Strategy

Currently exceeding targets for recycling rates, with latest Quarter 1 figures looking very positive. The main pressure here is the increasing capacity needed to meet requirements of

more collections due to increased waste streams. Increased use of agency staff has been needed as a result. Resource pressure is likely to increase further with potential recycling of plastic film material from 2027, which is currently being trialled. Replacement of refuse fleet needs to begin in next 2-3 years due to vehicle age and will be a big challenge for the transport transition. It also represents an opportunity for the waste transition to procure fleet that is better suited to future waste streams, which will result in carbon and cost savings from more efficient collections.

W2 Minimise environmental impact of onward treatment of waste

Good progress being made, carbon considerations are an important part of procurement, both in terms of minimising export of waste and in requiring all suppliers to provide decarbonisation plan. Will continue to be a focus in future contracts.

W3 Commercial Waste Service. Develop upgraded service.

New service has been operating for two years now, performing well, we have enforcement team in place and other local authorities have been contacting us to look at what we have been doing well. Workplace recycling requirements will come into place in April 2024. This may have a significant effect on number of customers although it is difficult to say in which direction this will be, there could be a drop if the private sector comes in with new services at low price in response to this requirement, or we may acquire more customers due to increased demand. There is due to be a national advertising campaign during the summer to raise awareness of these changes and we will be following that with a campaign targeted at our own customers.

The suggestion is that '***develop upgraded service'*** as the action under Carbon Impact of Commercial Waste Service has now been completed successfully and that we adopt a new action '***increase customer base and recycling rate'***. In addition to the direct carbon benefit of improved commercial recycling rates, commercial providers refuse vehicles travelling up from Cardiff or similar to service small number of businesses in Blaenau Gwent has a significant carbon impact that our service could reduce. From a financial point of view our commercial service is not subsidised and increasing our customer base will help reach Bridging the Gap profit targets.

We have held meeting with Executive Member for Education and Climate Champion to address school recycling rates. The main issue with reducing the high rates of residual waste being produced by schools is having an engaged facilities manager who has the support of school leadership to ensure that waste is being separated for collection, which is always a challenge for sites such as schools. We have made available data to schools which shows who are good and poor performers in this area.

W4 Develop stronger 'reduce' element to household waste communication

First education suite at Roseheyworth opened, to engage school and community groups. A new reuse shop at New Vale currently under development and this will mean we can offer bulky items for the first time. Grant funding is driving our current work in this area as this is

a priority for Welsh Government now recycling is making strong progress in Wales. Staff time for engagement is important to this 'reduce' message also.

Worked with Ebbw Vale Institute to provide funding and equipment for a first repair café, run by volunteers. At the moment this was a one-off trial, but the aim is to work towards a network or regular repair cafes run across the three valleys. Engaged with partners such as GAVO and Tai Calon on providing support and volunteers for this. Currently work is paused due to staff turnover, but finance is available via Welsh Government for us to facilitate funding applications for community groups. There maybe potential working with Regeneration to engage with business around these circular economy themes as well.

7. Territorial Net Zero 2050

What Net Zero 2050 means for Blaenau Gwent

When declaring of a Climate Emergency in 2020 we recognised that while we were already taking a range of climate actions, we needed to develop a full understanding of our own organisational carbon footprint and from this identify the full range of actions we need to take to reach Net Zero 2030 as a council. With this overview now in place for our own emissions we have moved on to develop a similar overview for Net Zero 2050 and emissions of Blaenau Gwent as an area. Over the last 12 months we have developed two key documents, our **Net Zero 2050 Framework** and **Local Area Energy Plan**, which have significantly increased our understanding of Blaenau Gwent's pathway to Net Zero 2050. As with Net Zero 2030 this work has taken a data-based approach to understanding our territorial carbon emissions. It also reflects resident views and preferences on climate action, particularly informed by the Blaenau Gwent Climate Assembly, reflecting that Net Zero 2050 will require far greater resident involvement that Net Zero 2030. Both documents were also developed with significant input from officers working across the council and from a range of partner organisations, including through a series of workshops.

The section below sets out the purpose of both documents and highlights their key messages, both in terms of where Blaenau Gwent is now and what will need to be done in the future to reach Net Zero 2050. These documents take a different approach to our Decarbonisation Plan for Net Zero 2030, reflecting that many of Blaenau Gwent's territorial emissions are outside of our direct control as a council, and that the range of changes required is far wider. Therefore, it is not practical to attempt to detail the full range of actions required reach Net Zero as was done in the Decarbonisation Plan. What these documents do aim to provide is a high-level overview of what is needed to achieve Net Zero for Blaenau Gwent as a whole. It is important due to our place shaping role and democratic accountability that we took the leading role in developing this overview. With the intention of providing a shared understanding of what we, partner organisations and the public need to do to continue and accelerate actions towards Net Zero 2050.

Net Zero 2050 Framework

What the Framework Covers

The Framework covers all territorial emissions for Blaenau Gwent, this means all carbon emitted within Blaenau Gwent (from transport, housing, businesses etc.). Net Zero 2050 relates to production based territorial emissions, these include all the carbon emissions (i) directly released in Blaenau Gwent and (ii) released to produce energy that is used in Blaenau Gwent. It does not include consumption based territorial emissions, which are the emissions associated with making products elsewhere, which are then consumed in Blaenau Gwent. Consumption based emissions vary much less between one area and another than production-based emissions, reflecting that there is much more limited scope to influence them at the local level.

The framework is structured around four themes: energy, housing, nature and transport, that reflect both the priorities of the Blaenau Gwent Climate Assembly and our major emissions sources. Achieving Net Zero 2050 is about how Blaenau Gwent can play our part in tackling the Climate Emergency and achieving global targets for limiting global warming to well below 2^{o}c. But it is also about improving our green space, warm homes, affordable energy and accessible transport for all.

Purpose of Framework

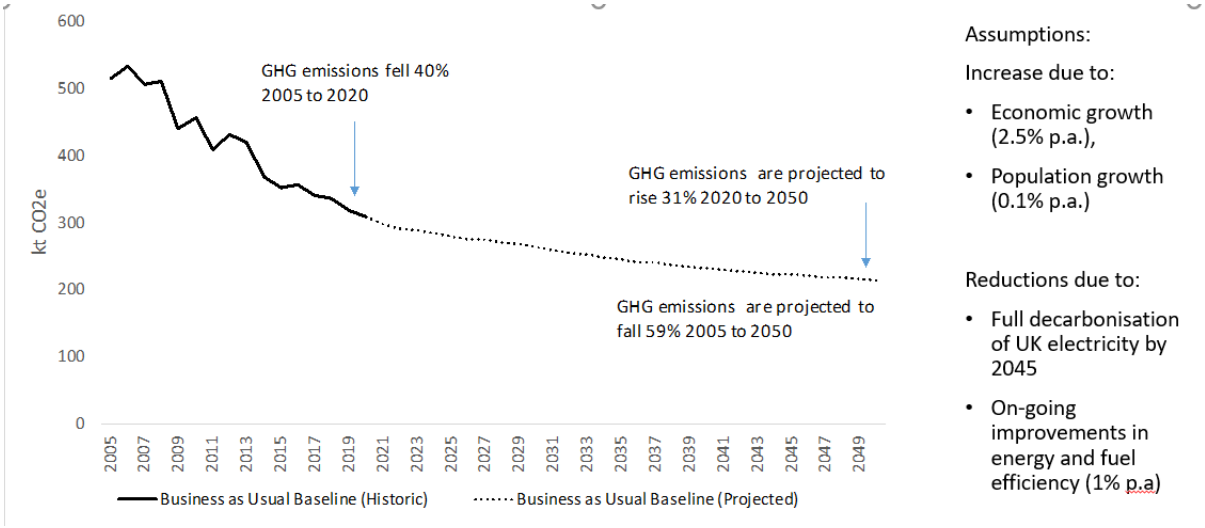
The framework aims to set our direction by providing a clear description of what Net Zero 2050 looks like for Blaenau Gwent and some of the key steps that we need to take to reach it. However, the scope of the changes needed to reach Net Zero 2050, which include a range of actions that are outside of local control, mean that it is not realistic or proportionate to cover all the actions required in a single document. Similarly, costing the changes required to reach Net Zero 2050, and the potential costs of not doing so, is beyond the scope of the Framework. The approach of the Framework is to describe what needs to be done under each of the four themes to achieve Net Zero in Blaenau Gwent, which is dependent on significant additional resources being available, rather than describing what can be done to maximise carbon reductions within existing resources. In this context it is worth noting that the alternative to the actions described in the Framework is not doing nothing. In the 25-plus year period to 2050 much of the infrastructure covered in the framework will reach the end of its useful life and need to be replaced whether or not it is decarbonised.

Key Messages

Emissions are falling but not on target

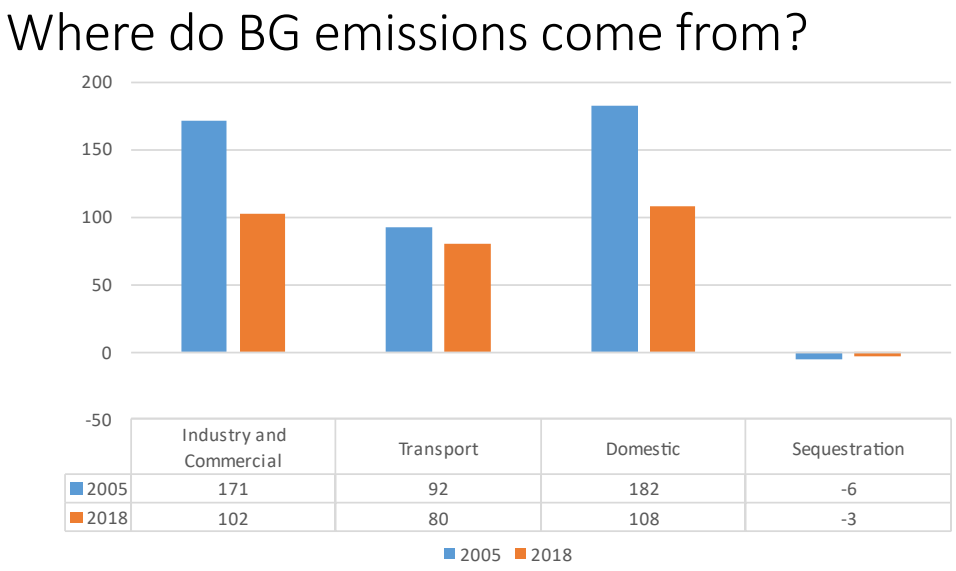
Blaenau Gwent's territorial carbon emissions have been falling for a number of years, reducing 44% between 2005 and the most recent figures in 2022. This fall mirrors the national trend and has been driven by two main factors, the decarbonisation of the electricity grid and widespread continuing improvements in energy efficiency. However, these two factors will not be enough on their own to reach Net Zero. At the UK level more than half of the emissions reductions since 2008 were from energy supply sectors. Looking forwards, more than three quarters of the required emissions reductions for the next 15 years are expected to come from other sectors (i.e. transport, buildings, and land). Reflecting this national trend Blaenau Gwent currently will fall significantly short of Net Zero without action in these other sectors, as the projections from the Tyndall Centre (below) show. This is because it is not possible to eliminate all carbon emissions through energy efficiency improvements and there are substantial elements of energy use that are currently not based on electricity and so would not currently benefit from zero carbon energy due to grid decarbonisation.

Projected Business as Usual Territorial Emissions for Blaenau Gwent



Need to switch to Zero Carbon Energy

These trends are reflected in the breakdown of Blaenau Gwent's territorial emissions. Home energy use is the largest element of these emissions, with the large majority of home emissions coming from heating. There have been significant carbon savings due to energy efficiency resulting from the installation of modern condensing gas boilers. However, modern boilers now achieve close to 100% efficiency, their theoretical maximum. Meaning further significant carbon savings will require home heating to switch to alternative zero carbon energy source. Transport emissions have seen the lowest levels of emissions reduction (figures), reflecting the very limited role of electricity as an energy source for transport. As a result, transport has become an increasingly significant proportion of Blaenau Gwent's territorial carbon emissions. The LAEP explores these challenges in greater detail.



Zero Carbon Well-being

An important message across all four themes that the aim of Net Zero 2050 is to achieve our wider well-being objectives for Blaenau Gwent in a way that is zero carbon, rather than simply removing carbon from the existing system. For example, a future zero carbon transport system cannot be considered in isolation from addressing the wider need for an improved integrated transport system in Blaenau Gwent. Similarly, because Net Zero 2050 will require changes to people's homes and lives, it will require public engagement that addresses how these changes will improve people's quality of life as well as reducing carbon emissions. The Blaenau Gwent Climate Assembly linked these elements through its main question ''how can we tackle climate change in Blaenau Gwent in a way that is fair and improves living standards for everyone?' The Assembly made clear that residents saw benefits to Net Zero and expected these benefits, and the costs, to be shared fairly. They expected delivery of improvements to their local environment as part of achieving Net Zero, both as a matter of fairness due to the effort they would be putting in for the wider environment and a test of the credibility of our ability to deliver our wider climate aims.

Local Area Energy Plan (LAEP)

Purpose of LAEP

The Local Area Energy Plan (LAEP) is a key document under the Net Zero 2050 Framework as the local energy system includes 70% of Blaenau Gwent's total carbon emissions. The LAEP provides a data based picture of what the current local energy system looks like in Blaenau Gwent. It also modelled four different scenarios for how Blaenau Gwent might achieve Net Zero 2050. They are not recommendations or targets either for us as an organisation or for Blaenau Gwent as an area. Rather, they provide a general overview of the challenges for Blaenau Gwent in achieving a Net Zero energy system and a useful

indication of the size and direction of the changes needed. More immediately, the LAEP also provided a list of potential actions over the next five years for us and our partners.

Wider Context

Over the last year LAEPs have been developed for the 19 Welsh local authorities (LAs) who did not already have one, using Welsh Government funding. Blaenau Gwent's LAEP was prepared by a consortium led by Arup and administered by the Cardiff Capital Region (CCR), together with LAEPs for the other seven CCR LAs who did not already have a LAEP. Welsh Government will also be bringing all the LAEPs together to inform a National Energy Plan. The LAEP has been prepared on our behalf, however, the energy transition identified in the LAEP is not something that can be delivered solely or even primarily by the Council.

Key Messages

Current Local Energy System

The current energy system in Blaenau Gwent is made up of three largely independent sub-systems based on three different fuel types: gas is used for heating, petrol/diesel for transport, and electricity for all other uses (see sankey diagram below). As noted above, only electricity, currently the smallest sub-system, can become Net Zero so the other two fuel uses will need to be converted to electricity.

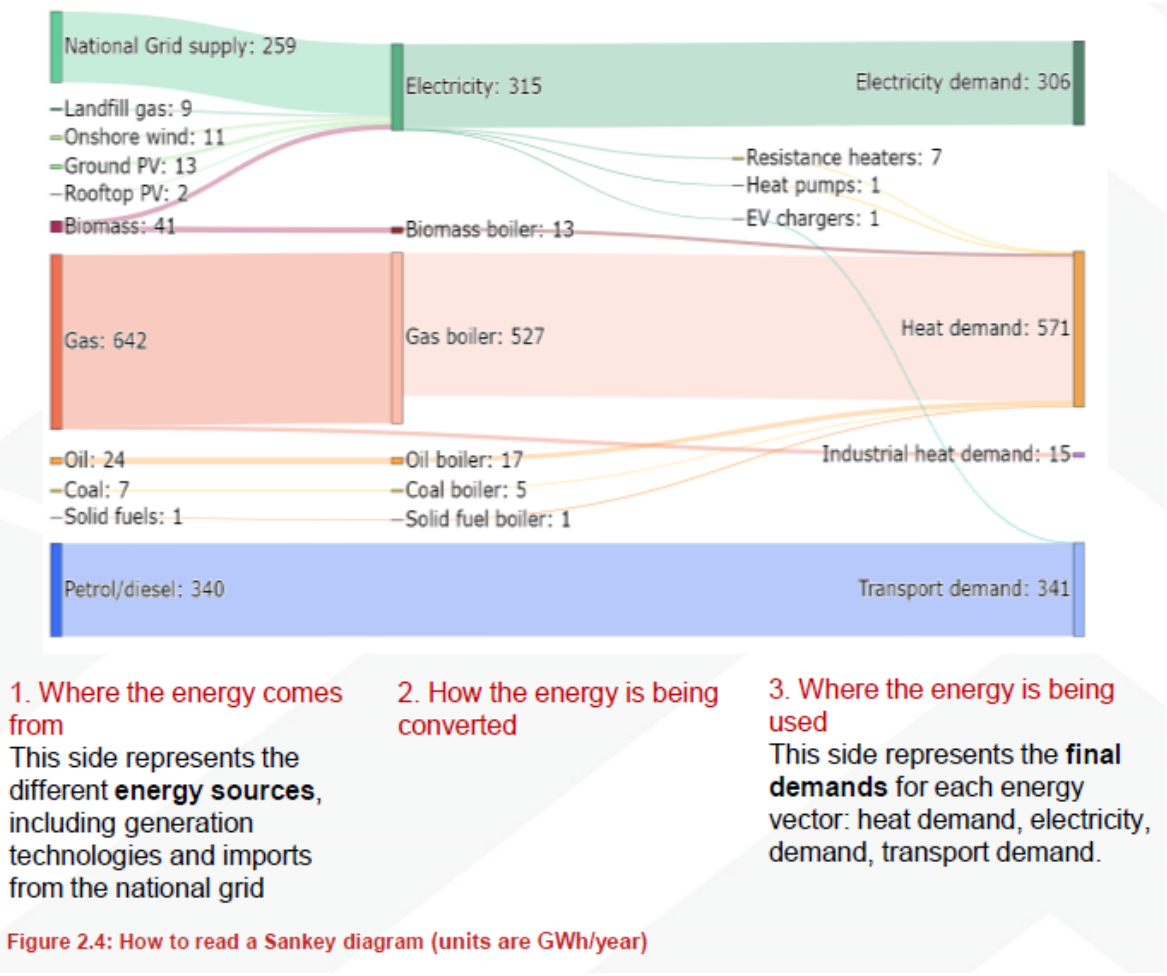


Figure 2.4: How to read a Sankey diagram (units are GWh/year)

Blaenau Gwent will ultimately be dependent on wider changes to achieve this, particularly changes to the energy grid and pricing. However, it is also the case that even if all these wider regional and national changes do happen, without substantial local action in Blaenau Gwent also taking place these wider changes will not result in a Net Zero energy system in Blaenau Gwent. Most notably, for home heating and transport in Blaenau Gwent to run on zero carbon electricity major changes will be required to local infrastructure, including zero carbon heat systems (e.g. heat pumps) and vehicle charging infrastructure. It is these changes that drive the need for a LAEP to inform action in Blaenau Gwent. This local action will also require significant support as the scale of change required locally cannot be achieved within existing resources.

Future Local Energy System

Transport

ULEVs in Blaenau Gwent will largely be battery electric, requiring significant local charging infrastructure in Blaenau Gwent, although hydrogen will play some role for larger vehicles. The switch to electric vehicles identified in the LAEP is part of a wider transport shift in how people travel, towards active travel as part of more integrated transport system.
In terms of reducing the carbon impact of travel electric vehicles sit near the bottom of the 'avoid-shift-improve' low carbon transport hierarchy. (picture)

Home Heating

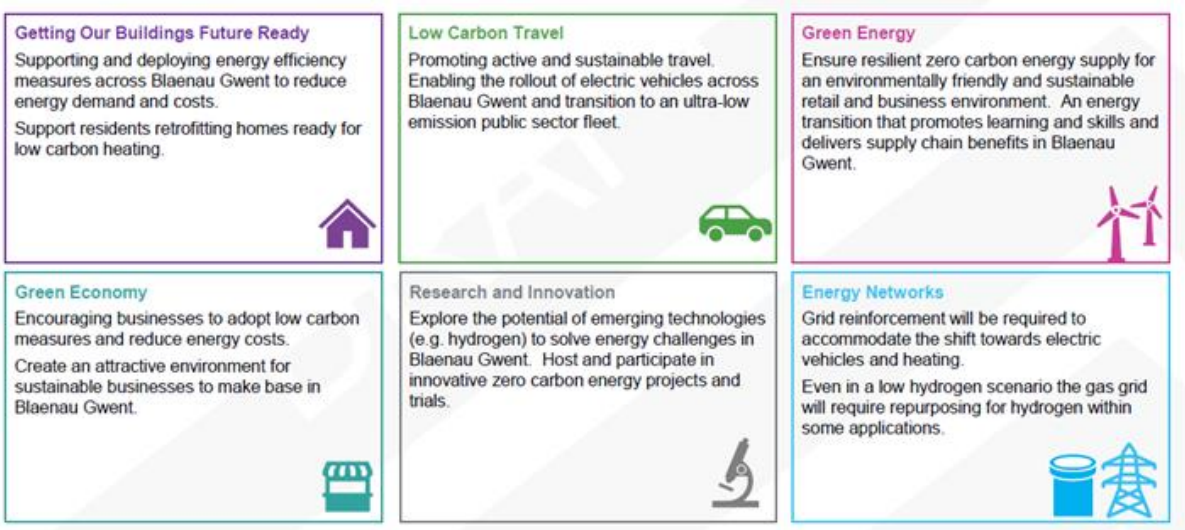
In line with the recent Welsh Government Heat Strategy the LAEP anticipates that some form of electric powered heat pumps will replace gas boilers to enable the large majority of homes to be heated using zero carbon energy. The large majority of these heating systems will be installed in existing homes, which will require retrofit works to reduce energy demand and costs for residents, as well as improving the comfort of homes.

Renewables

The National Grid is changing fundamentally, emissions from electricity have fallen by 64% since 1990, and the UK Government aims to entirely decarbonise the electricity supply by 2035. The transition to Net Zero is fundamentally changing nature of the electricity grid. Under the UK Climate Change Committees' Balanced Pathway, demand for electricity will increase by 50% by 2035 and 100% by 2050. This change is not just about increasing the capacity of the grid to meet increased demand. The grid was built for transmission connected generation, taking electricity from a small number of very large power stations and transmitting this power around the country. Increasingly the electricity grid incorporates distribution connected generation, where smaller renewable generation schemes feed in and are used locally. Distributed generation now makes up 29% of grid and this will only increase further, including significant increases in renewable generation in Blaenau Gwent, primarily from wind and solar, and re-enforcing the local grid to support this. The total potential renewable capacity is more than enough to meet this demand. The main challenges will be balancing supply and demand, both over time and around the country, and to do so in a reliable and affordable way. This will require finding the right balance of different renewable energy sources, energy demand shifting and energy storage (e.g. batteries). Further modelling will be needed in this area in particular, due to limitations of the initial LAEP modelling.

Energy Propositions

The LAEP action plan identified potential short and medium-term actions for us and our partners, and includes regional and national elements. These actions are organised under six energy propositions that reflect the main changes identified in the modelling as shown below:



Net Zero 2050 Emissions Reporting

In last year's report we committed to reporting annually on our territorial emissions once our Net Zero 2050 framework and LAEP were complete. We are currently still working with CCR and partners on a common approach to monitoring and are confident we will be able to report on our territorial emissions using the standard format developed from next year's report onwards.

Case Study: Fast Followers Project Transport Project

We have been awarded funding under the Innovate UK Fast Followers competition which is part of the Net Zero Living: Thriving Places programme, to help local authorities, their partners and communities to overcome non-technical systemic barriers to the scaling and adoption of net zero solutions.

Our project aims to identify the barriers to the integration of the transport system and what is preventing the transition to Net Zero. The project will allow evaluation of the performance of the transport system and identify behaviour change approaches that will support a just transition. The project will change the way the Council engages with residents on the transition to Net Zero.
Aims and objectives:

- Map the status of the integrated transport system and the methods of transport used by residents.
- Map the status and trends of behaviours that will influence the transition to ULEVs.
- Identify potential challenges and barriers for communities to transition to ULEVs.
- Gather data on opportunities and challenges communities face in adopting and maintaining behaviour.
- Categorise barriers and challenges into themes and prioritise according to level of occurrence.
- Carry out stakeholder engagement and hold focus group meetings to co-design a behaviour change intervention plan with residents.

- Take the behaviour change approach forward for other areas of the Net Zero transition.

As part of this project in January 2024, we published a call to action on the Council's social media channels seeking expressions of interest from residents to take part in a small scale on street charging trial. Over a two-week period, we received 30 expressions of interest and due to demand being higher than anticipated the expression of interest was then closed. Alongside this, officers searched for potential solutions to trial that would enable residents to have the ability to charge on-street.

This included an event on 29th January 2024 that invited solution providers to come along and present their solutions and demonstrate them (where possible). A total of 8 solution providers attended the event and two solutions were initially selected to be used in the trial with residents. The solutions identified by officers to trial are cross pavement gully channels which will safely store the charging cable when in use. We have identified two gully channel products to trial.

13 properties have been identified as suitable to take part in the trial, the first Kerbo Charge gully was installed by our Highways team on 10th July 2024 at a property on Hillside Terrace, Waunlwyd, Ebbw Vale and was the first gully channel installation in Wales.

Blaenau Gwent Climate Assembly

In March 2021 44 residents of Blaenau Gwent got together online to discuss the question **'how can we tackle climate change in Blaenau Gwent in a way that is fair and improves living standards for everyone?'** The 44 Assembly Members were chosen at random to be representative of people in Blaenau Gwent (in terms of age, gender, where they live, type of housing etc.) The **Climate Assembly** met for a total of 23 hours online, hearing evidence from over 20 experts (from academics to local residents), and voted on recommendations they created themselves, five of which received the 80% support needed to become official recommendations.

Through the Blaenau Gwent Mitigation Steering Group partners developed a set of proposed actions that we could take in response to the Climate Assembly at the Blaenau

Gwent level (recognising that some elements of recommendations will take action at regional or national scale). We agreed to lead for four of these priorities.

8. Climate Adaptation

Net Zero 2030 and Net Zero 2050 are both about ***climate mitigation*** actions (reducing carbon emissions). The other main form of climate action is ***climate adaptation***, which is about taking action to reduce the impact of climate change that is already taking place/will take place in the future.

We can expect by mid-century:
- warmer and wetter winters
- hotter and drier summers
- higher variability of extreme weather
- increased exposure to weather related hazards
- increased frequency and intensity of wildfire.

Climate adaptation will be needed in a number of areas including: the local economy, natural environment, infrastructure and communities. Since last year's report we have been exploring with partners through the Gwent PSB developing a regional climate change risk assessment, based on the methodology developed by NRW on behalf of Welsh Government as part of their forthcoming Climate Adaptation Strategy. Two Blaenau Gwent officers have participated in Met Office training on climate adaptation risk assessment as part of this work. By next year's report we hope to have made significant progress on completing this assessment.

9. Concluding Remarks

This report sets out the progress we have made towards Net Zero 2030, including a 3% fall in our direct emissions last year and a cumulative 19% fall over the last four years from our 2019/20 baseline. We have strengthened our efforts towards Net Zero 2050 through our Net Zero 2050 Framework and Local Area Energy Plan which set out what Blaenau Gwent needs to do to reach Net Zero. A key message of these documents is that Blaenau Gwent will not achieve Net Zero without taking local action, but we are also dependent on wider action and additional resources and support to achieve these targets.