

Committee: **Council**

Date of Meeting: **18th July, 2024**

Report Subject: **Blaenau Gwent Net Zero 2050 Framework and Supporting Local Area Energy Plan 2024**

Portfolio Holder: **Councillor Helen Cunningham, Deputy Leader / Cabinet Member Place & Environment**

Report Submitted by: **Daniel Wheelock (Policy Officer); Andrew Parker (Service Manager: Policy & Partnership)**

Reporting Pathway								
Directorate Management Team	Corporate Leadership Team	Portfolio Holder / Chair	Governance Audit Committee	Democratic Services Committee	Scrutiny Committee	Cabinet	Council	Other (please state)
	30 May 24				19 Jun 24		18 Jul 24	Climate Group

1. Purpose of the Report

Present the Net Zero 2050 Framework setting out main challenges and overall direction of travel for Blaenau Gwent in achieving Net Zero 2050, and the Local Area Energy Plan (LAEP) modelling potential scenarios for future Net Zero energy system in Blaenau Gwent with proposal for next steps.

2. Scope and Background

2.1 Blaenau Gwent County Borough Council declared a Climate Emergency in September 2020. Our response to this emergency has been around 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 area from homes, transport, businesses etc.

2.2 We have made a clear separation between these two Net Zero goals because the two types of emissions often require quite different actions. We adopted our Decarbonisation Plan 2020-2030, covering our organisational emissions, at the same time as declaring a Climate Emergency, and since then have reported on our progress through our Annual Net Zero Report. We have also been acting on Blaenau Gwent's territorial emissions, including contributing to the Blaenau Gwent Climate Assembly, the first climate assembly in Wales.

Net Zero 2050 Framework

2.3 The proposed Net Zero 2050 Framework aims to provide a high-level overview of what is needed to achieve Net Zero for Blaenau Gwent as a whole. We have adopted the framework approach because there are a wider range of sources for territorial emissions than organisational emissions, many of which are outside of our direct control. It is important, however, that the council in its democratic place

shaping role provides a clear view for us and our partners of the overall path towards Net Zero for Blaenau Gwent.

The framework (Appendix 1) 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. Given the range of changes required, the framework will inform more detailed actions that will sit in key plans in each of the four themes.

2.4 Local Area Energy Plan Background

One of the key plans to support the framework is the proposed Local Area Energy Plan (LAEP), which covers the future energy system for Blaenau Gwent, as well as significant elements of the housing and transport transitions. The LAEP covers around 70% of Blaenau Gwent's total carbon emissions. 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.

2.5 Blaenau Gwent's LAEP has been prepared by a consortium led by Arup, administered by the Cardiff Capital Region (CCR), together with LAEPs for the other seven CCR LAs who did not already have a LAEP (Appendix 2). The LAEP has been prepared on our behalf, again reflecting the authority's important democratic role in shaping the transition to Net Zero in Blaenau Gwent. However, the energy transition identified in the LAEP is not something that can be delivered solely or even primarily by the Council. Welsh Government will also be bringing all the LAEPs together to inform a National Energy Plan.

2.6 Blaenau Gwent Energy System

2.7 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 diagram Section 6). Only electricity can become Net Zero so the other two fuel uses will need to be converted to electricity.

2.8 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.

2.9 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, such as heat pumps, and vehicle charging infrastructure. It is these changes that drive the need for a LAEP to inform action in Blaenau Gwent.

2.10 LAEP Modelling

The LAEP has two main elements. The first element is modelling of what a Net Zero energy system in Blaenau Gwent in 2050 might look like. The figures in these models are projections of different scenarios for how Net Zero 2050 might be achieved. 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.

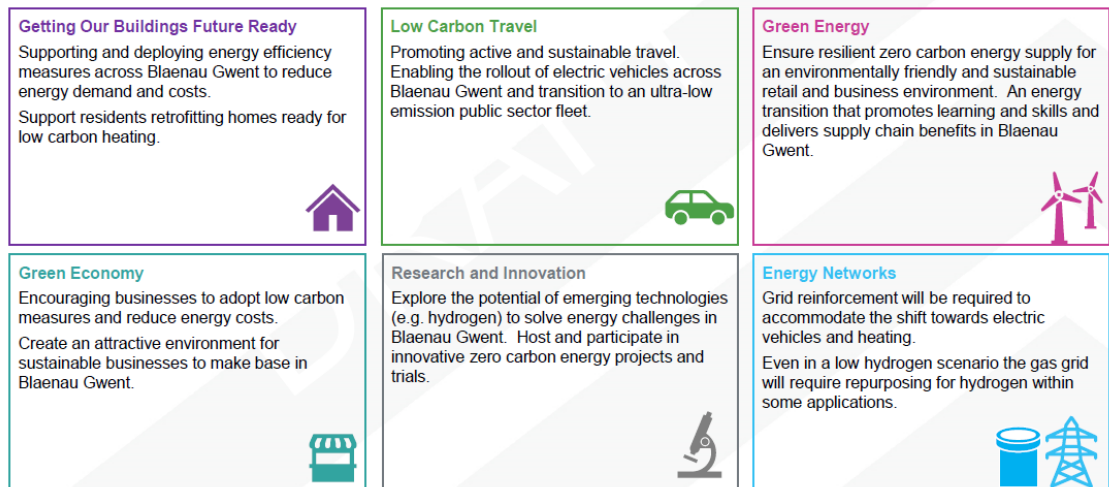
There are two main models within the LAEP:

- Future energy scenarios modelling identifies possible ways to achieve Net Zero 2050, based on optimising the financial cost and carbon costs.
- Deployment modelling attempts to identify where there is most potential to act in the short to medium term based on factors such as available grid capacity.

2.11 The modelling identifies the main changes required to achieve a Net Zero energy system, such as electrification, but also has significant limitations. Most notably, it very likely overestimates the level of local solar generation that would be cost effective to build. As the model effectively removes one of the most significant restrictions on renewable energy, by assuming that the national energy system will provide Blaenau Gwent with zero cost energy storage/grid balancing. It also does not attempt to fully model the cost impacts for residents and businesses. These modelling scenarios have informed the action plan but will require further development over time.

2.12 LAEP Actions

The second element is an action plan identifying 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:



2.13 As part of endorsing the LAEP it is important we set out what this Council is committing to doing now to address the actions within the LAEP that are within our control or influence. Appendix 3 identifies which of these actions we are committing to taking forward now in response to the LAEP. We will also continue to engage with partners about the system wide changes required to the energy system, although many of these changes are not within our direct control.

2.14 CCR's Corporate Joint Committee is aiming to endorse all 10 CCR region LAEPs and is exploring setting up a delivery unit and Net Zero clusters in addition to continuing the monthly steering group established during the LAEP drafting process.

3. **Options for Recommendation**

- 3.1 Place Scrutiny Committee considered the report on 18 June 2024, and recommended that the Council adopts the Blaenau Gwent 2050 Framework, and endorse the Local Area Energy Plan with a commitment to the actions set out for the Council. Furthermore, they supported the reporting of progress of the LAEP via the existing Net Zero Annual Report.

Net Zero 2050 Framework

Option 1a: That the Council adopts the Blaenau Gwent Net Zero 2050 Framework

Option 1b: The Council does not adopt the Blaenau Gwent Net Zero 2050 Framework.

Blaenau Gwent Local Area Energy Plan

Option 2a: That the Council endorse the Local Area Energy Plan and commit to the actions for the Council presented in Appendix 3.

Option 2b: That the Council does not endorse the Local Area Energy Plan and does not commit to the actions for the Council presented in Appendix 3

Annual Reporting

Option 3a: Agree that the reporting on progress against the LAEP will be via the existing Net Zero Annual Report.

Option 3b: Do not agree the reporting on progress against the LAEP via the existing Net Zero Annual Report.

4. **Evidence of how this topic supports the achievement of the Corporate Plan / Statutory Responsibilities / Blaenau Gwent Well-being Plan**

The Net Zero 2050 Framework and LAEP are important elements in setting out how we will '*respond to the nature and climate crisis and enable connected communities*', one of the four priorities in the Blaenau Gwent Corporate Plan 2022/27.

They are also central to one of the two objectives of the Gwent PSB Well-being Plan, '*we want a climate-ready Gwent, where our environment is valued and protected, benefitting our well-being now and for future generations.*'

5. **Implications Against Each Option**

5.1 ***Impact on Budget (short and long term impact)***

In the short-term the actions identified in Appendix C will need to be delivered within existing resources and/or with external funding.

In the longer-term the cost of the transitions identified in the Net Zero 2050 Framework and LAEP will be very substantial. Our existing work to decarbonise our buildings and fleet has demonstrated the very significant costs of technologies such as heat pumps and ULEVs (Ultra Low Emission Vehicles), which are still have higher costs than fossil fuel-based technologies in many

cases. For example, recent costing exercises for heat pumps in schools have shown that the costs of installation are several times higher than gas boiler replacement and are often greater than the potential lifetime fuel cost savings. While costs are likely to continue to fall, there are also always likely to be some actions to reach Net Zero 2050 that will have to be taken on basis of carbon savings rather than cost savings.

Even when low/zero carbon alternatives can deliver life-time cost savings the up-front costs are still substantial and may not always be compatible with external funding arrangements. However, there are also significant potential cost implications associated with not taking action as electrification increases energy efficiency in most cases, meaning it lowers energy costs and also reduces price volatility.

There is no single model to determine future costs and resource implications. Therefore, we will undertake, as necessary, additional work to identify any future costs and resource implications for the organisation on this agenda in terms of specific actions and/or projects/programmes.

5.2 ***Risk including Mitigating Actions***

As highlighted above there are significant limitations to the modelling of future energy scenarios in the LAEP. The LAEP provides an initial guide to the likely future changes needed to the local energy system and the main challenges to reaching Net Zero. However, it does not represent a set of targets or recommendations for the energy system in Blaenau Gwent in 2050. Further modelling will be needed, particularly in areas such as local solar and renewables. More detailed information will also be required about other areas such as the retrofit requirements of Blaenau Gwent's building stock. Other Local Authorities will also require this information, so there may be potential for further joint working in these areas.

There is also considerable uncertainty around future technological and policy developments that will have a major influence on the shape of the future Blaenau Gwent energy system, and which are largely outside of our local control. For example, decarbonising home heating will require action in Blaenau Gwent to change home heating systems, which will require local understanding of our building stock, but is also dependent on decisions made on a national scale about home heating technology and the future of the gas grid. In line with the draft WG Heating Strategy none of the scenarios in the LAEP include any use of hydrogen for home heating. Reflecting the position in the strategy that cost, supply, leakage and air quality issues mean that 'there is a lack of strong impartial evidence to support (hydrogen) as the ubiquitous heating fuel in Welsh buildings'.

High industrial heat is a difficult area to decarbonise and there is considerable uncertainty about what the best technology(s) for this will be. In this context, Ciner Glass(a glass bottle manufacturing facility) represents a major potential addition to the future Blaenau Gwent energy system and would require a shift from the initial proposed gas-based heat system to achieve Net Zero. The wider trajectory of these transitions is outside of our direct local control and represent a significant potential risk to our ability to achieve Net Zero. The research and

innovation proposition in the LAEP in an important element of Blaenau Gwent being actively involved in emerging technologies to try to ensure that Blaenau Gwent is well positioned to take advantage of emerging opportunities that fit with our local circumstances.

5.3 **Legal**

The UK and Welsh Governments have both made legal commitments to reach Net Zero 2050.

5.4 **Human Resources**

Many of the major areas of work identified in the LAEP are new or emerging areas of work for us and we have limited staff capacity or specialist knowledge to take on additional work in these areas.

Acting on local energy system requires specialist knowledge and skills, many Welsh LAs recruiting in this area have found it very challenging to attract staff with these skills given the high demand for people to work on low carbon energy projects across all sectors and the low supply in what is an emerging field.

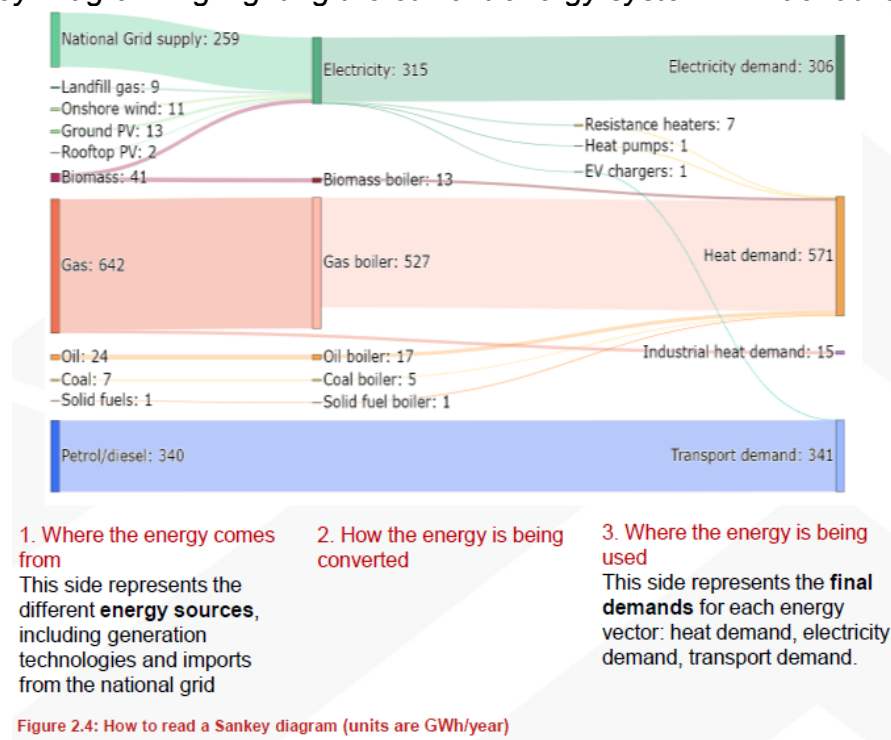
5.5 **Health and Safety**

No direct implications.

6. **Supporting Evidence**

6.1 **Performance Information and Data**

A Sankey Diagram highlighting the current energy system in Blaenau Gwent.



Further supporting performance information is provided in the Appendix 2 and supporting LAEP Technical Report (Appendix 4).

6.2 ***Expected outcome for the public***

Net Zero 2050 is closely tied to the council's wider well-being goals, for example, making housing and transport zero carbon in Blaenau Gwent is part of a wider transformation of these systems to improve resident's well-being.

6.3 ***Involvement (consultation, engagement, participation)***

Our Net Zero 2050 Framework is heavily informed by the [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. The four themes in the Framework are based on these recommendations.

6.4 ***Thinking for the Long term (forward planning)***

Achieving a Net Zero energy system requires long-term planning and investment decisions to develop zero carbon infrastructure and avoid carbon lock-in. The Net Zero 2050 Framework and LAEP set out the long-term challenges Blaenau Gwent needs to address.

6.5 ***Preventative focus***

Addressing rising energy prices and a reliance on fossil fuels.

6.6 ***Collaboration / partnership working***

We are working with partners on climate change in Blaenau Gwent through the Blaenau Gwent Local Well-being Partnership Climate Mitigation Steering Group and regionally through Gwent PSB and Cardiff Capital Region. Including regional projects where face similar challenges and can pool resources, such as ULEV charging.

6.7 ***Integration (across service areas)***

The LAEP cuts across service areas.

6.8 ***Decarbonisation and Reducing Carbon Emissions***

This is the direct focus of framework and plan.

6.9 ***Integrated Impact Assessment (IIA)***

The most significant transitions related to the LAEP and Net Zero 2050 including home retrofit and low carbon transport have the potential to also deliver significant well-being benefits to residents around issues such as fuel poverty and transport barriers in accessing jobs and services such as low car ownership and high car dependency. Issues which typically disproportionately effect people with protected characteristics and/or socio-economic disadvantage. However, the actions needed for these transitions also have high up-front costs and other barriers that make them less accessible to those same residents who would benefit most from them, and instead may be most at risk of being left behind.

Which is why the principles of a just transition and understanding the needs of different groups of residents is important element of delivering these plans. For more details see attached IIA (Appendix 5).

7. Monitoring Arrangements

- 7.1 Progress against Net Zero 2050 Framework and LAEP will be monitored by our corporate Climate Group. Progress reports will also be added to the existing Annual Net Zero Report covering our Decarbonisation Plan which is subject to democratic scrutiny. The actions identified in Appendix C will be added to business planning.

Background Documents /Electronic Links

- *Appendix 1 Net Zero 2050 Framework*
- *Appendix 2 Local Area Energy Plan*
- *Appendix 3 BGCBC LAEP Actions*
- *Appendix 4 LAEP Technical Report*
- *Appendix 5 Integrated Impact Assessment – Local Area Energy Plan 2024*