



Replacement Local Development Plan 2018-2033

Background Paper

March 2022

BP 55: Local Area Energy Plan

Mae'r ddogfen hon ar gael yn Gymraeg hefyd.

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Llywodraeth Cymru
Welsh Government

ARUP



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Executive summary

In May 2019, Conwy County Borough Council declared a Climate Emergency, and committed to supporting the county's journey to net zero carbon by 2050.

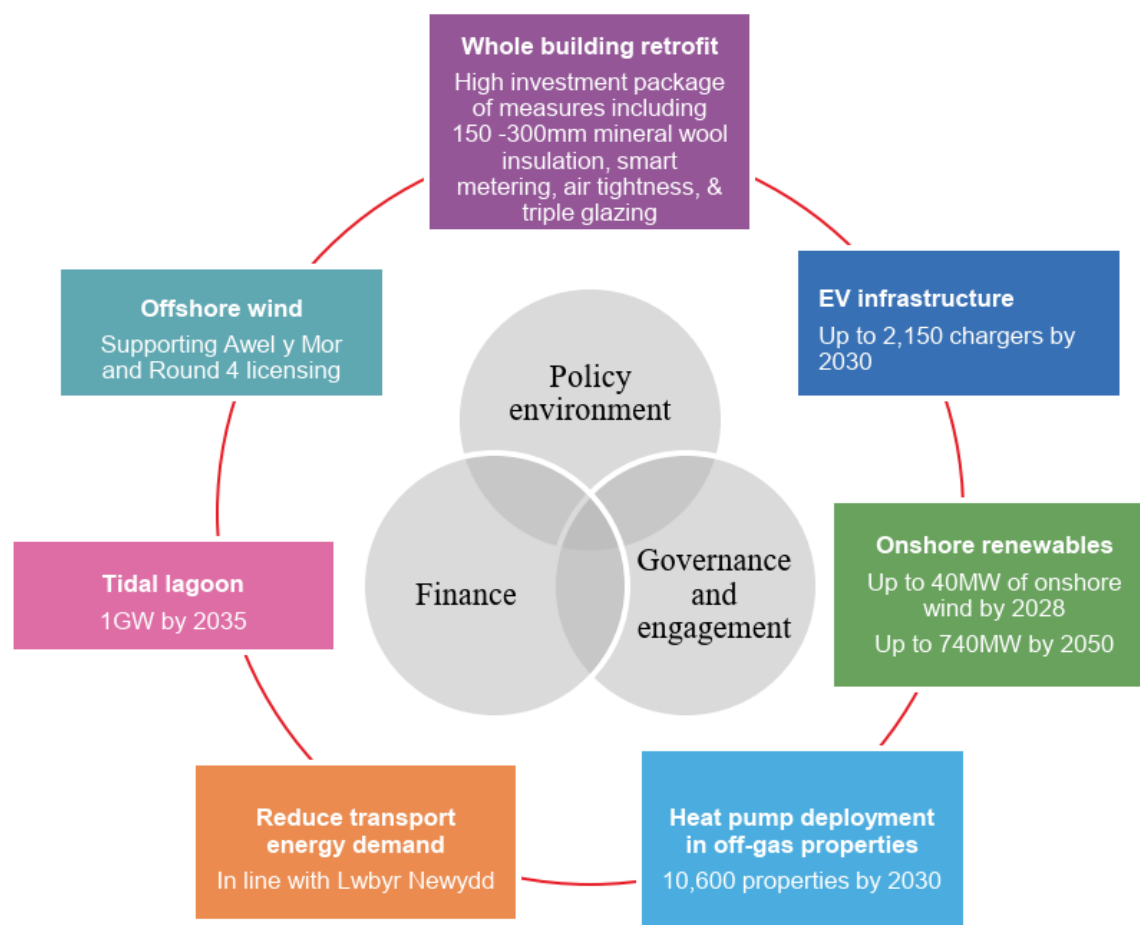
This Local Area Energy Plan for Conwy sets out a vision for what a zero carbon energy system could look like in 2050, and describes key immediate actions for Conwy County Borough Council to support our journey.

Our vision for Conwy's future local energy system is to *develop a net zero energy system for Conwy, enabling everyone to contribute and thrive*.

With stakeholder input, we have identified priority intervention areas (see right). This plan sets out key actions for the first five years under each of these areas.

We will monitor progress towards the end point by monitoring progress towards key outputs.

We recognise that we will need support from a wide range of stakeholders and partners to deliver this plan, and look forward to working with you.



Glossary of terms

Anaerobic digestion - Processes biomass (plant material) into biogas (methane) that can be used for heating and generating electricity

Batteries - Store electrical energy to be used at a later time

Biomass boiler - A boiler which burns wood-based fuel (e.g. logs, pellets, chippings) to generate heat and electricity

Carbon, Capture & Storage (CCS) - The process of capturing and then storing carbon emissions before they enter the atmosphere

Electrolyser - Use electricity to split water into hydrogen and oxygen

Heat pump - Use a heat exchange system to take heat from air or ground and increases the temperature to heat buildings

Hydro-electricity - Use water falling between two reservoirs to turn turbines to generate electricity

Hydrogen - A flammable gas that can be burned, like natural gas, to generate heat or power vehicles. The by-product is water

Landfill gas - Micro-organisms in a landfill site produce gases such as methane that can be used as a source of energy

Methane reformation - Process of producing hydrogen by heating methane from natural gas and steam, usually with a catalyst

Microgeneration - Small-scale generation of heat and electricity by individuals, households, communities or small businesses for their own use

Nuclear Small Modular Reactors (SMR) - Small nuclear reactors that can provide up to 300MW of power per unit

Purchase Power Agreement (PPA) - A contract between two parties where one produces and sells electricity and the other purchases electricity.

Renewable Energy Guarantees of Origin (REGO) Agreement - A scheme that tells consumers what proportion of their electricity comes from renewable sources

Resistance heating - Generate heat by passing electrical currents through wires

Sewage gas - Use a reciprocating gas engine to convert sewage gas into heat and electricity

Solar PV - Converts solar radiation into electricity using photo-voltaic (PV) cells

Wind power - Harness wind to turn a turbine to generate electricity

1. Introduction

Overview

In May 2019, Conwy County Borough Council declared a climate emergency.¹

By recognising global, national and local climate change trends and taking measured action now through preparation of a Local Area Energy Plan (LAEP), Conwy not only contributes to the decarbonisation of Wales but also sets the standard for net zero carbon planning in local authorities across the United Kingdom.

What is a LAEP?

A LAEP sets out a plan which describes the actions a local area needs to take to reach its energy and climate goals. In particular, it outlines what the council will do, and what is required from other actors such as the energy sector, the government, and the local community.

Our LAEP provides us with an understanding of the nature, scale, rate, and timings of changes that need to be made for Conwy's transition to a net zero energy system.

Following Ofgem's methodology, the LAEP process combines robust technical analysis with comprehensive stakeholder engagement to create

a routemap for delivering decarbonisation as effectively as possible, identifying actions required by groups including local and national government, energy providers, regulators, industry, and residents.

This process aims to account for the local, regional and national conditions to achieve net zero, considering how co-operation with adjacent areas can help to bring success to decarbonising the wider area.

This plan also aims to facilitate increased local stakeholder awareness in Conwy, resulting in more widespread and meaningful consent for the changes required and credible commitments to deliver the plan.

Plan contents

Our LAEP presents our vision for a net zero local energy system in Conwy, together with a summary of the evidence to support our vision and a routemap to get there. This includes a set of actions for the council, whilst recognising the role of other key actors in government, the energy sector and across the community.

Plan structure

This plan is structured in three main parts:

1. **Where are we now?** - Description of Conwy's existing energy system and relevant policies and objectives.
2. **Our future vision** - Presentation of future scenarios for a net zero local energy system, including risks and "low regrets" measures
3. **How will we get there?** - A routemap and action plan for the Council to use to drive the local energy system transition in Conwy

Please see the technical report for additional detail about the methodology followed, analysis completed and the results of this analysis.

2. Where are we now

Socio-economic context

Conwy's socio-economic context

This section provides an overview of Conwy through a socio-economic lens, including key statistics on demographic and employment.

Demographic baseline

- Conwy currently accounts for 2.5% of Wales' greenhouse gas emissions.²
- Conwy's population in 2020 was estimated to be 118,200, an increase of 3.1% since 2010. Despite this, population density in the area is low, with a county average of ~0.1 people per hectare.³
- Large amounts of the county are rural, with 38% taken up by Snowdonia National Park. The county also encompasses the River Conwy, which marks historic county boundaries.⁴
- Conwy includes 56,650 dwellings, including 51,650 households.⁵
- In Conwy, fuel poverty affects around 12% of households – the same as the national average for Wales at 12%.⁶

Employment

- Across Conwy, the service industry constitutes roughly three quarters of the local economy (measured by GVA), higher than for the rest of Wales where this is ~70%. Main sectors include health and social work, accommodation and food services, retail trade and real estate.
- A much lower than average proportion of the economy comes from production, 13% compared to the national 22%.
- Construction constitutes a higher than average proportion of the economy, 10% relative to 7% across Wales.⁷
- Tourism is a major part of Conwy's economy, with 9.8 million visitors in 2019. Visitor spending contributed £996 million to Conwy's economy in 2019, supporting 12,617 FTE jobs and contributing 52% of the area's £1907 million GVA in 2019.^{8,9}



Figure 1: Location of Conwy in Wales

Description	Information
Area	1,130,000 hectares
Population (2020)	118,200
Population density	Low – approx. 0.1 person per hectare
Character	Largely rural
Off-gas properties	High – 19%
Fuel poverty (2018)	12% of households

Table 1: Conwy profile – key statistics

2. Where are we now

Policy context

Conwy's policy context

Current plans and commitments

Conwy already has some ambitious plans and commitments currently in place relating to decarbonising the energy system, and also contributes to wider regional and national objectives.

Conwy

- Conwy's Decarbonisation Plan, developed after the council declared a climate emergency in May 2019, shows how the local authority will become net zero by 2030. This will be delivered through the Climate Challenge Programme.¹⁰
- Conwy's Replacement Local Development Plan (RLDP) seeks to build affordable housing, provide new jobs, and enable economic growth in the area while mitigating GHG emissions and developing climate adaptation and resilience.¹¹
- The Local Well-being Plan (2018) focuses on mental well-being, as well as supporting sustainable procurement and energy-efficient buildings. It highlights the importance of engagement with the community.¹²

North Wales

- As part of the regional energy strategy goal of reducing emissions by 55% by 2035, the North Wales Energy Vision includes scenarios to meet the vision to deliver local benefits from the transition to a net zero economy and to become a net exporter of low carbon electricity. One of the scenarios given as an example in the Strategy include the development of a 1 GW tidal lagoon and a 4 MW solar PV array at Gofer, as well as 2.8 GW of offshore wind capacity, 300 MW of nuclear SMR, and 310 MW of onshore wind capacity.¹³
- The ambitious North Wales Growth Deal put forward fourteen investment projects that aim to bring low-carbon growth and development to the region.

National

- Both the UK and Welsh governments have set net zero emissions targets for 2050, and the Welsh public sector has set a net zero target by 2030.
- The Welsh Government has set its low carbon delivery plan for 2021-25 and is targeting a reduction of 44% against a 1990 baseline. The plan supports a just transition, where decarbonisation can be a means to deliver social and economic justice.¹⁴

2. Where we are now

Greenhouse gas emissions context

Historic greenhouse gas emissions

Conwy's greenhouse gas emissions have been decreasing over the past 15 years, following the trend of the wider UK emissions. Figure 2 shows emissions by sector in Conwy since 2005, based on data published by the UK Government.²

Decarbonisation of the national electricity grid has driven much of the reductions across the domestic, industrial and commercial sectors.

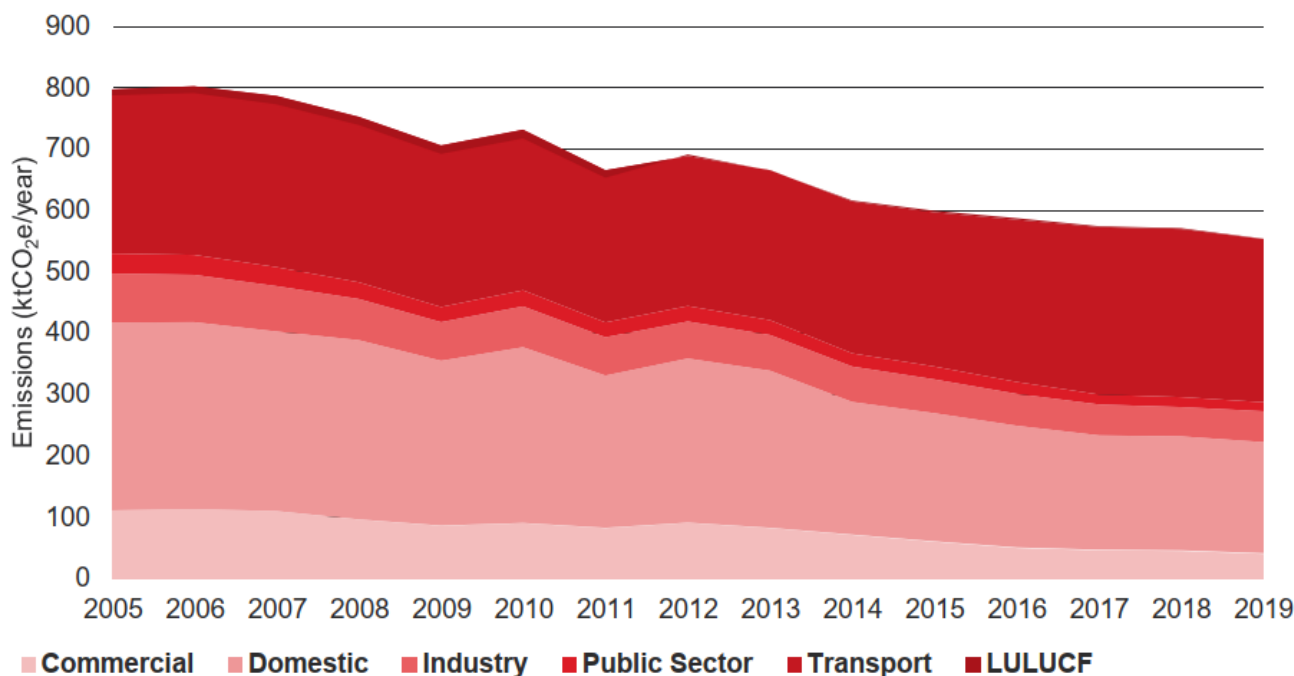


Figure 2: Conwy greenhouse gas emissions 2005-2019

Local authority control and influence

Conwy County Borough Council has a varied degree of control and influence over emissions sources. The UK Government reports emissions that are within the boundary of the local authority (territorial emissions), and also notes those that are within the scope of influence for that local authority.

In Conwy, 70% of transport emissions in 2019 were from A roads, as shown in figure 3. This includes the contribution from the major A55 dual carriageway.²

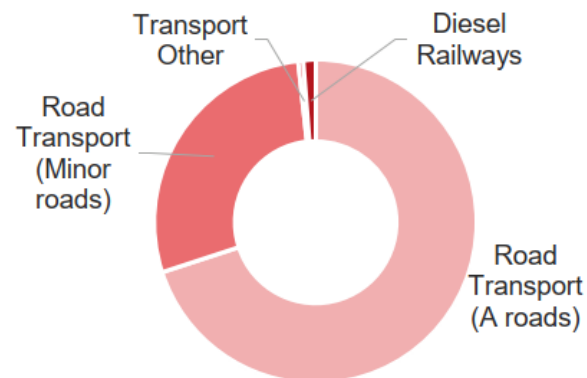


Figure 3: Conwy transport emissions split in 2019

2. Where we are now

Energy system context

Baseline energy flows

Conwy's energy system today comprises three mainly separate systems for heating, electricity and transportation. Figure 4 provides a "Sankey" diagram which, when read from left to right, shows how different energy sources (i.e. fuels and renewable energy resources) meet various types of demand via energy vectors or conversion technologies. Sankey diagrams are a way of visualising energy transfers between sources and demands via carriers.

The majority of heating comes from gas and almost all transport demand is met by petrol and diesel. Electricity comes from a broader range of sources, the largest contributors being local hydroelectric facilities and National Grid imports.

In this diagram, local sources of renewable electricity have been shown separately from National Grid imports, even where these local sources are connected to the grid.

In order to achieve our net zero ambitions, we need to move away from using natural gas, diesel and petrol. This poses a challenge.

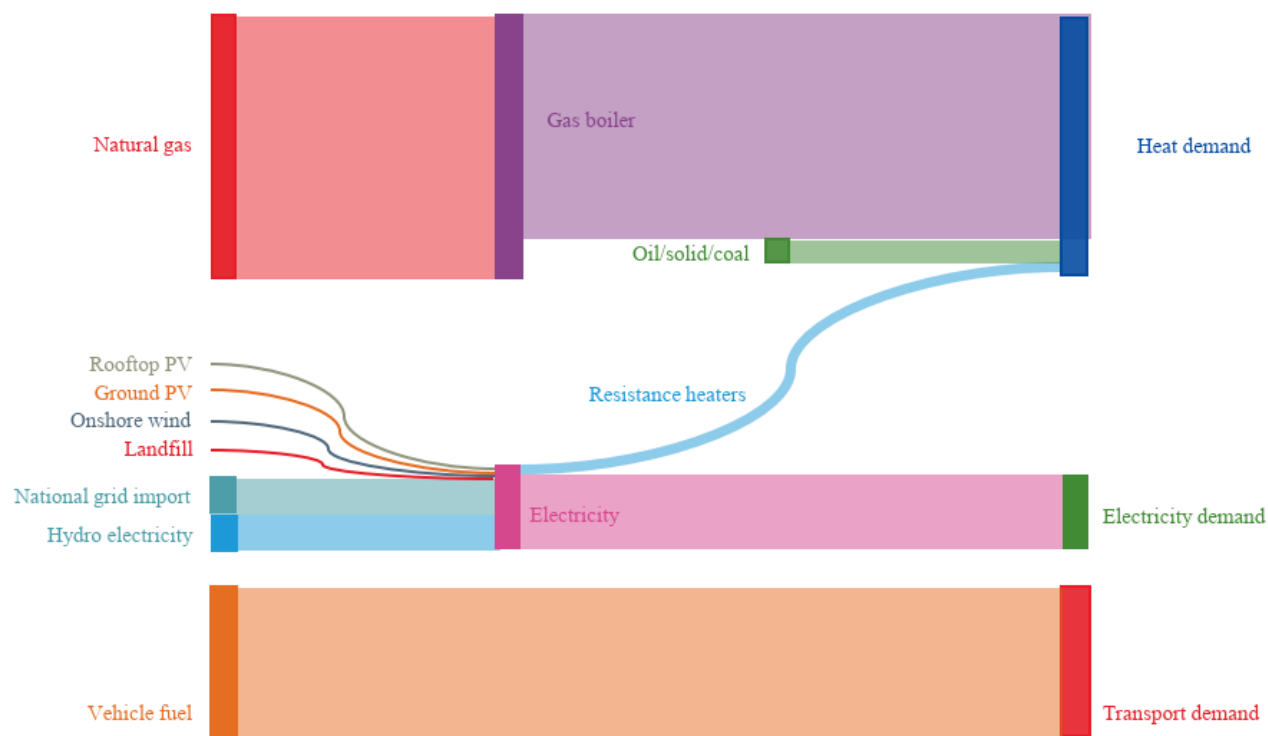


Figure 4: Sankey diagram of energy flows

2. Where we are now

Energy system context

Current energy consumption

In 2018, Conwy's total energy consumption totalled 2,460GWh, about 2.5% of Wales's annual consumption. Of this, 980GWh was domestic energy demand, 500GWh was from industry and commerce, and 980GWh was from the transport sector.¹⁵

Electricity

Conwy's electricity demand in 2018 totalled 240GWh.¹⁶ The distribution of electricity consumption is shown in Figure 5. Note that industrial electric is assumed to be a national asset and has been excluded from our modelling.

In 2018, Conwy generated 2,200GWh of renewable energy (almost ten times its demand). The majority of this was generated from offshore wind and hydropower, with other contributions from onshore wind, solar PV, landfill gas, and sewage gas.¹⁵

Heat

Conwy's 2018 heat demand was 710GWh, the distribution of which is shown in Figure 6.¹⁶ Figure 7 shows how the heat demand is split between domestic and non-domestic properties.

Approximately 19% of homes are off the gas grid - the same proportion as the whole of Wales.¹⁷ Off-gas properties tend to be located in rural areas in Conwy, which accounts for the greater electricity consumption per property in these areas.

Transport

In 2019, the total energy demand from transport in Conwy was 980GWh, of which 970GWh was accounted for by road transport. Our technical report shows the distribution of transport demands across Conwy, split by mode type.¹⁸

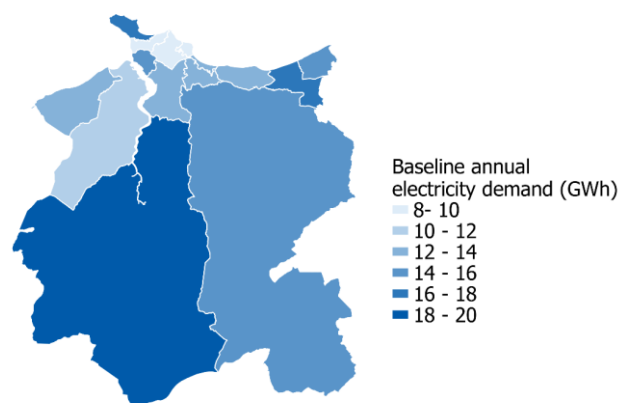


Figure 5: Baseline electricity demand by MSOA

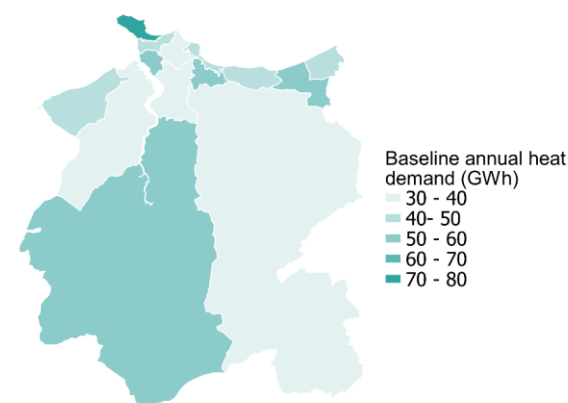


Figure 6: Baseline heat demand by MSOA

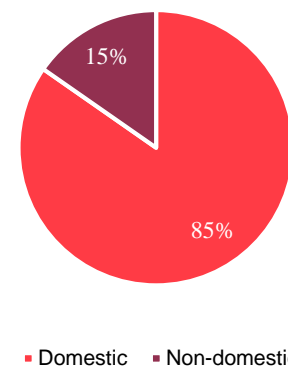


Figure 7: Baseline heat share (GWh)

3. Our vision for Conwy's future local energy system

Our vision

To develop a net zero energy system for Conwy, enabling everyone to contribute and thrive.

Objectives of the plan

- To maximise reductions in carbon emissions while minimising financial costs.
- To provide a resilient energy system capable of meeting future energy demand.
- To empower the local economy, through increasing access to local employment and promoting local ownership and supply chains.
- To support the creation of quality and long-lasting local job opportunities
- To provide community engagement, leadership, and ownership.
- To deliver affordable solutions for all.
- To account for our varied rural and urban locations.

Understanding the future energy system

We know that we need to transition our energy system in Conwy to net zero by 2050.

However, we also know that there are multiple plausible and attractive future energy systems for Conwy, depending on a range of uncertainties. This includes how the cost of technologies might change over time, as well as wider policy decisions that will be made by UK Government. These factors will influence the uptake of hydrogen, for example.

In order to inform our plan, we have modelled a range of scenarios, and from this we have identified a number of technologies that are consistently deployed across all future scenarios. These technologies represent low and no regrets actions that should be taken now to set Conwy on track to a zero carbon future.

Through this analysis, we have identified the commonalities that will support us in meeting our vision and objectives. This forms the basis of our plan. We know that these actions will be required

regardless of any future uncertainties.

3. Our vision for Conwy's future local energy system

Future scenarios and pathways

2050 system scenarios

For our analysis we identified a variety of future whole energy systems scenarios for 2050, to help understand the choices and preferred pathways for a net zero local energy system. The scenarios build on a pair of energy demand scenarios (high and low). The projections incorporate both different projections of growth in Conwy and different scenarios for energy efficiency through building retrofit and transport mode shift.

The Sankey diagrams on the following pages (figures 8-11) show what mix of energy sources and vectors could most optimally meet the projected demand over the year, given the conditions set in each scenario.

Each of these diagrams represents a potential energy future for Conwy, and these have been considered alongside local and regional strategic priorities to identify the actions described in this report. The four main scenarios modelled were:

- High demand – high population and economic growth and shallow retrofit
- High demand with high hydrogen uptake
- High demand in an islanded scenario (i.e.

where Conwy is not connected to the national electricity grid)

- Low demand – low growth and deep retrofit

Comparison of all of these with the baseline scenario shown in figure 4 highlights a key fundamental change in the energy system: moving from three semi-isolated systems for heat, electricity and transport to a single coherent energy system which capitalises on the complex interconnections between energy vectors.

The Sankey diagrams for these four scenarios are shown in figures 8 - 11 on pages 13 and 14.

In line with priorities in the North Wales Energy Strategy, all of these scenarios represent a significant diversification of renewable energy generation and a shift to lower carbon transport.

For more information, please refer to the technical report for additional detail about the methodology followed, analysis completed and the results of this analysis.

3. Our vision for Conwy's future local energy system

Future scenarios and pathways

Future Sankey diagrams

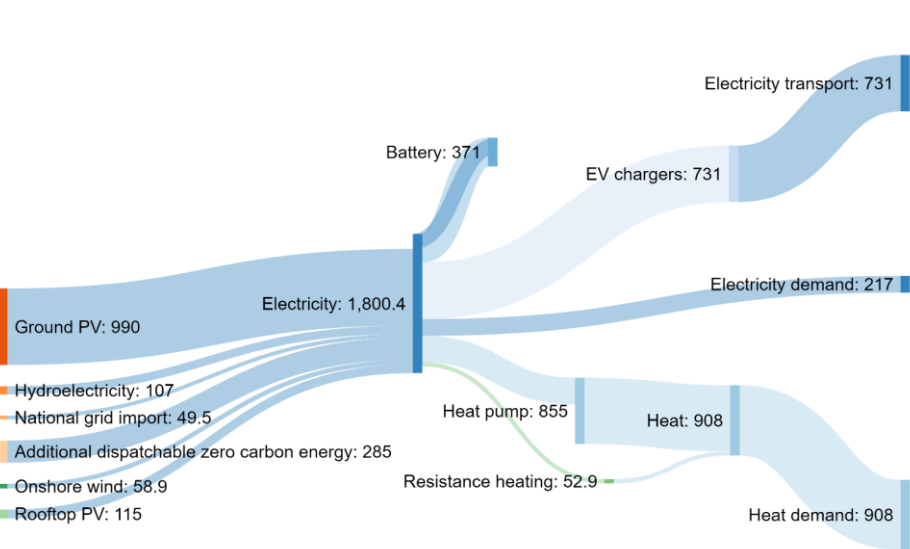


Figure 8: Energy flows in the 2050 high demand scenario (GWh/year)

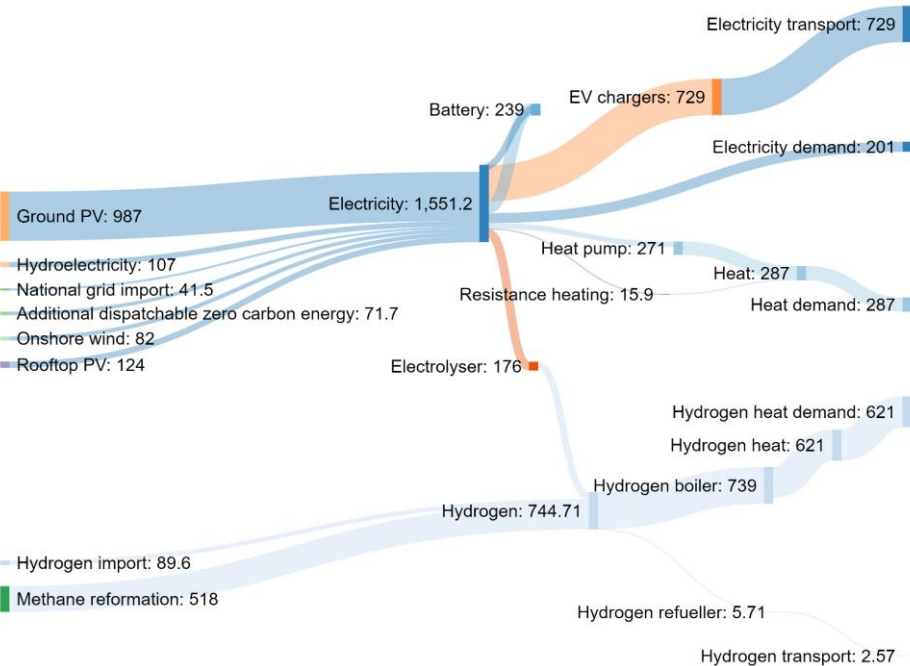


Figure 9: Energy flows in the 2050 high hydrogen scenario (GWh/year)

3. Our vision for Conwy's future local energy system

Future scenarios and pathways

Future Sankey diagrams

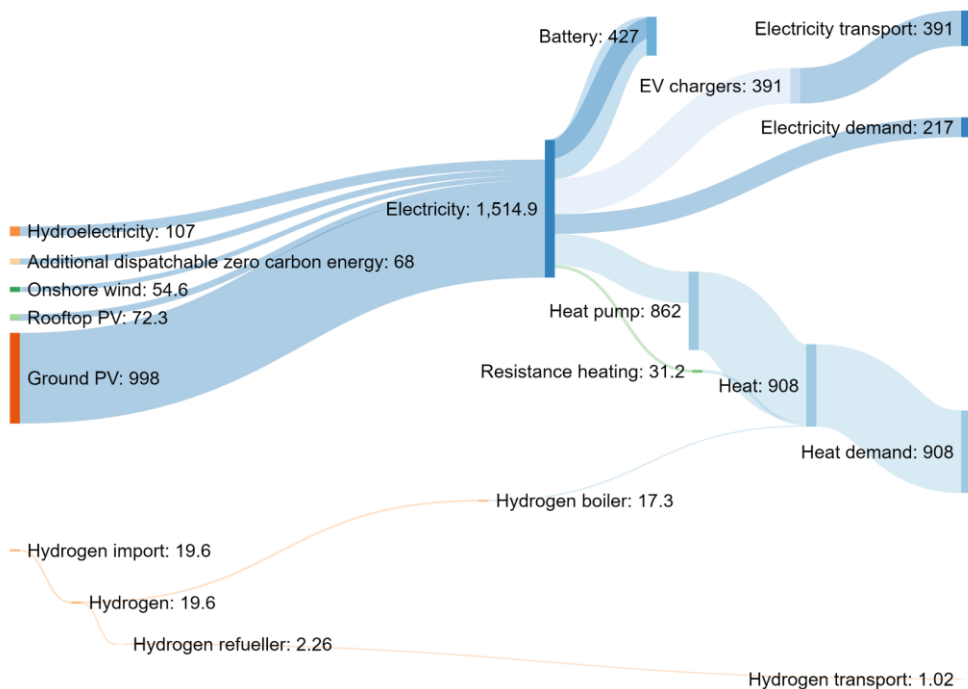


Figure 10: Energy flows in the Islanded 2050 high demand scenario (GWh/year)

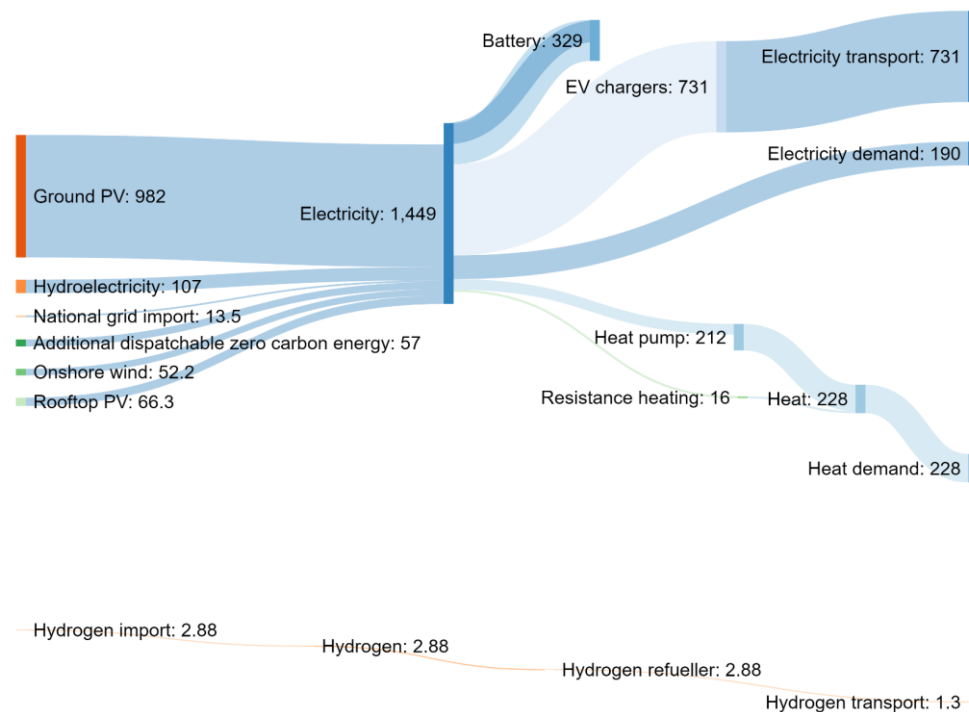


Figure 11: Energy flows in the 2050 low demand scenario (GWh/year)

3. Our vision for Conwy's future local energy system

Priority intervention areas

Based on the evidence developed for this plan (see Technical report), our priority intervention areas are set out to the right.

These represent the areas where we need physical changes to the energy system.

In order to support delivery of our plan's wider objectives, these will need to be supported by the right governance and engagement, policy environment and finance.

In line with the North Wales Energy Strategy, Conwy's delivery of these priority interventions will maximise local economic, social and ecological benefits.



Figure 12: Priority intervention areas in Conwy

3. Our vision for Conwy's future local energy system

Priority intervention areas

We plan to deliver actions to support changes to the energy system as follows:

1. Whole building retrofit

Improving energy performance of buildings through retrofit greatly reduces final energy demand. This minimises the need for development of new generation assets, and potential associated grid reinforcements.

There are a suite of interventions possible with varying levels of investment. We will encourage the private sector to pursue high investment in retrofit, which includes external, loft and under floor insulation measures, smart metering, window sealing, external solar devices, triple glazing and air tightness. We aim for up to 19,100 homes to have these measures installed by 2035, representing approximately £1 billion of investment.

2. Development of public EV charging infrastructure.

The Welsh Government EV strategy shows that we require a mix of rapid and fast chargers in Conwy. Our modelling results suggest the future transport system may require up to 110 rapid and 1,630 fast chargers by 2025, and up to 150 rapid and 2,000 fast chargers by 2030.

3. Development of offshore wind (both extensions new developments)

Gwynt Y Mor offshore wind farm extension has a potential capacity of 1.1GW. It is currently going through the design and consenting process with plans to be operational by 2030. This scale of extension has the potential to contribute significantly to the Welsh government goal of 1GW of renewable generation to be locally owned by 2030. This could contribute significantly to meeting energy demands in Conwy and nationally, which would reduce the urgency at which onshore renewables such as solar PV need to be deployed. The Mona offshore wind farm, being developed in the Irish Sea, has a proposed cable landfall in Conwy further contributing to the picture.¹⁹

4. Development of tidal lagoon infrastructure.

A 1 GW tidal lagoon is proposed in one of the potential transformation pathways in the 2035 North Wales Regional Energy Strategy and was identified as a key strategic objective in the stakeholder workshops, reflecting its support in the Council's preferred Strategy Replacement LDP. Though the delivery of the lagoon within the LAEP's timescale is uncertain, if delivered it will provide economic regeneration and flood risk benefits to Conwy.

5. Development of onshore renewables (Onshore wind and Ground PV) and associated storage.

Scale up of onshore renewables, particularly ground PV, is an essential component of meeting Conwy's energy demand. The current Local Development Plan (LDP) supports the development of a 4MW array, and up to 30MW of onshore wind. Whilst these are good steps this meets less than 10% of the projected optimal level of renewables needed by 2050, not including battery storage, so a rapid scale up in the RLDP is likely needed.

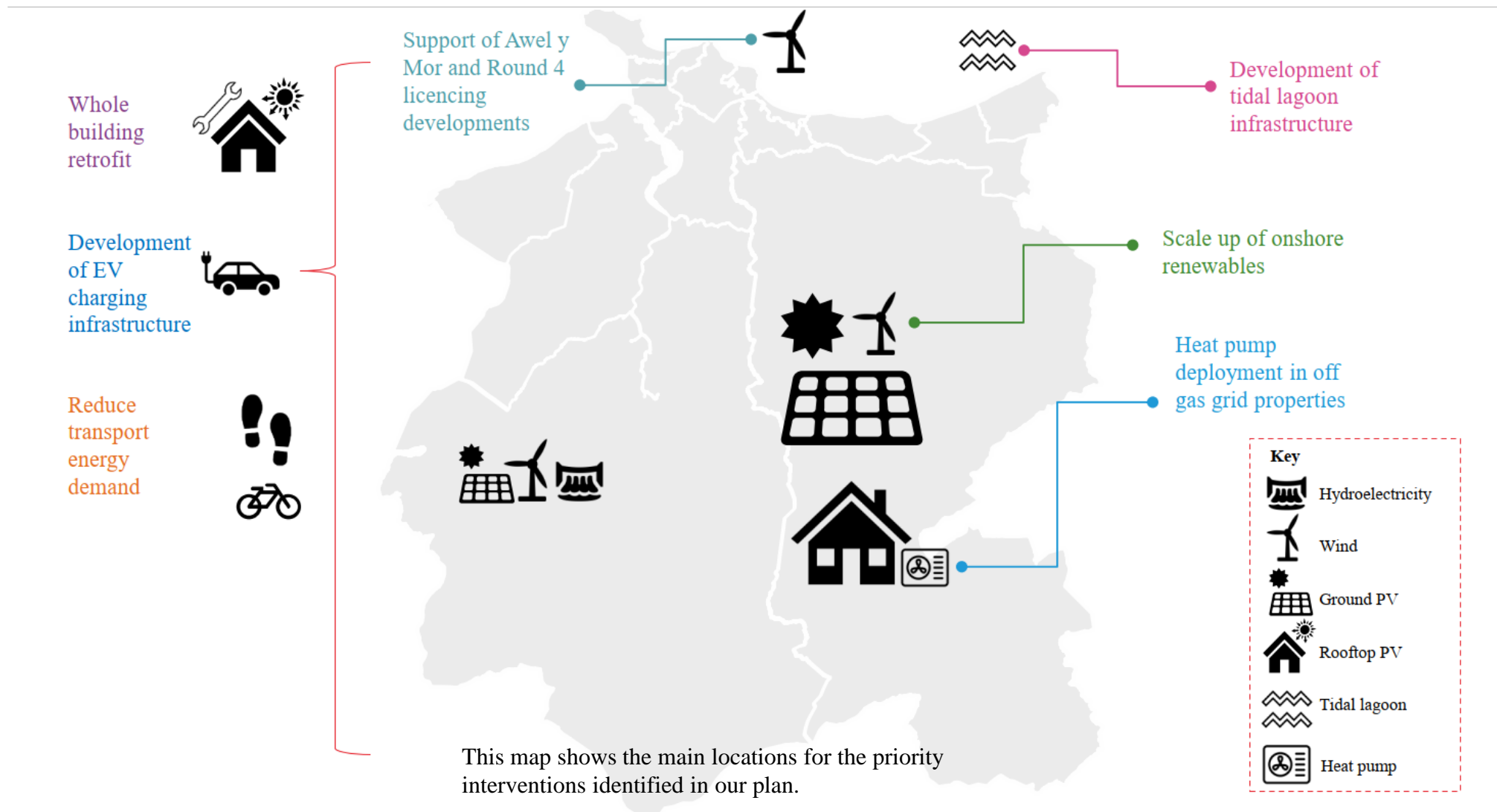
6. Heat decarbonisation of off gas grid properties

The county has an estimated 10,600 properties off the gas grid,¹⁶ many of which are heated by carbon intensive fuels. These properties should be prioritised for air and ground source heat pump installations. The uncertainty regarding hydrogen in the gas grid has no relevance for off gas grid properties.

7. Reduction of transport energy demand through active travel measures

The Welsh Transport Strategy sets a transport hierarchy – giving priority to meeting transport demand through active travel and public transport, before private vehicles. Reducing our reliance on energy intensive modes of transport is critical, not only because it supports goals in the Well-being Of Future Generations Act, but also because it will free up electrical energy needed for heating.

3. Our vision for Conwy's future local energy system



3. Our vision for Conwy's future local energy system

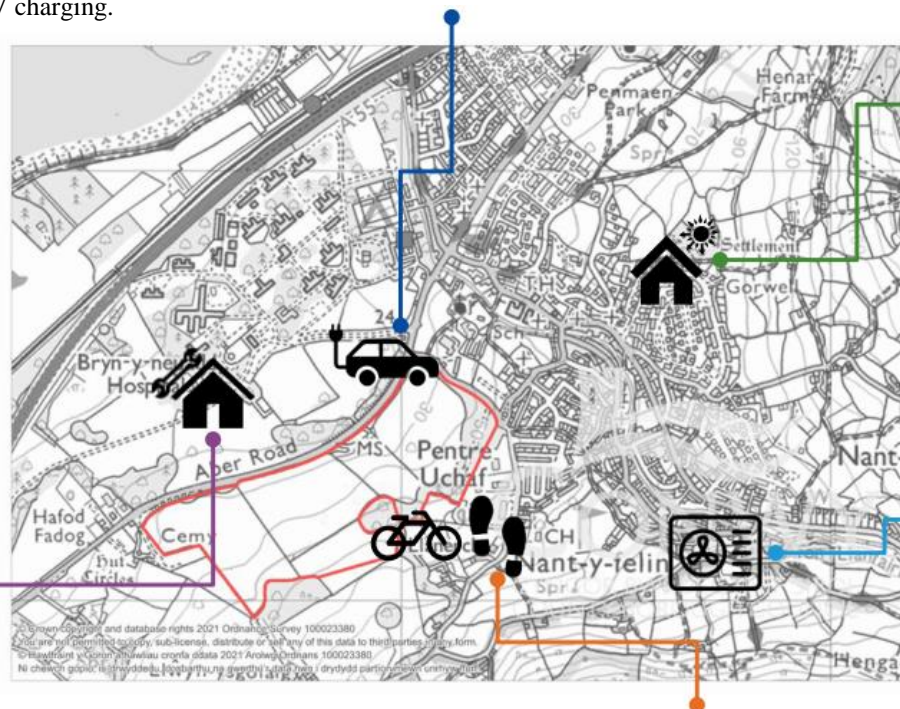
Our case study shows what this means for Llanfairfechan

Llanfairfechan is seaside town of c. 3400 people. A new development of 250 new homes and a primary school is planned. This case study presents the implications for both the new development (outlined in red) and the existing settlement.

To achieve a **new net zero settlement** by 2030, we would employ renewable electricity and heat sources and transport solutions. We would also undertake **retrofit** measures to improve the existing community's buildings to ensure energy demand is minimised.

The fabric of the **new buildings** will achieve, or at least facilitate, net zero operational carbon. This will be achieved by ensuring there is adequate wall and **roof insulation, a high level of air tightness, and triple glazing in windows.** Depending on funding and feasibility, **passivhaus** technology could be used. The **existing settlement** in Llanfairfechan should also undergo whole-building retrofit of the same measures where possible to reduce energy demand as much as possible. This will include sensitive treatment of the older parts of the hospital at Bryn-y-neuadd.

Llanfairfechan is located between the North Wales coast and Snowdonia National Park, with its primary external connection being the A55 road. **Both the new build and existing development** would benefit from EV charging infrastructure (driveway or on street) and in car parks. The electricity grid will need to be resilient to increased demand associated with EV charging.



An essential part of this project would be to integrate renewable technologies across the site. In particular, we would recommend **rooftop PV be installed on all appropriate homes (existing and new) and the school**, pending a feasibility study. Ground PV, onshore wind, and solar thermal technologies may also be implemented, following more detailed analysis. These renewable technologies would also be explored for the **existing buildings** in the area, as potential **retrofit measures**.

The new development will need a zero carbon heating solution, this could be either **heat pumps** or a district heating network, dependent on feasibility. As nearly 50% of the existing settlement is off gas grid, it will be a priority to install **heat pumps** in these **existing properties**.

This **new build development** offers large opportunities for infrastructure that encourages the reduction of transport demand. In particular, supporting active travel would be effective here, such as the development of cycle lanes and footpaths **connecting the key sites within and around** the settlement. In combination with **strong public transport links** with the town centre and existing train station, these measures would help to lower the reliance on private vehicles for local journeys.

4. What needs to happen?

Joined up action and ensuring conditions for success are met

A high level routemap showing key energy system milestones, references to Welsh Government and UK Government targets and decisions is shown overleaf. This provides an overview of how the LAEP fits in the wider context and direction of travel for energy system decarbonisation.

The actions fall under the following priority interventions areas as set out in Section 3:

Enabling actions

1. Whole building retrofit

2. Development of public EV charging infrastructure

3. Development of off-shore wind

4. Development of tidal lagoon infrastructure

5. Development of onshore renewables

6. Heat pump deployment in properties

7. Transport energy demand reduction

The priority interventions identified sit within this high level routemap. They require joined up but differentiated efforts by the stakeholders identified in this LAEP.

Although the exact form of the decarbonised energy system in 2050 is still uncertain, there are actions we can take now to maintain the ability to meet our 2050 and interim targets, and to reduce the longer term carbon output of the system.

The council's role in each intervention will vary. Some interventions call for council action in the material delivery of programmes, whilst other interventions involve the council in the role of facilitator for market driven change. We propose more detailed actions we will take for each priority intervention in the next section.

Local ownership is a key focus throughout this plan, and where possible the action taken should leverage the progress made through the Welsh Government's recent Cooperation Agreement with Plaid Cymru, which includes key goals on tackling climate change in a way that maximises local benefits.²²

Though our LAEP development process, we identified that broadly, each intervention requires four key elements to be successful. These are:

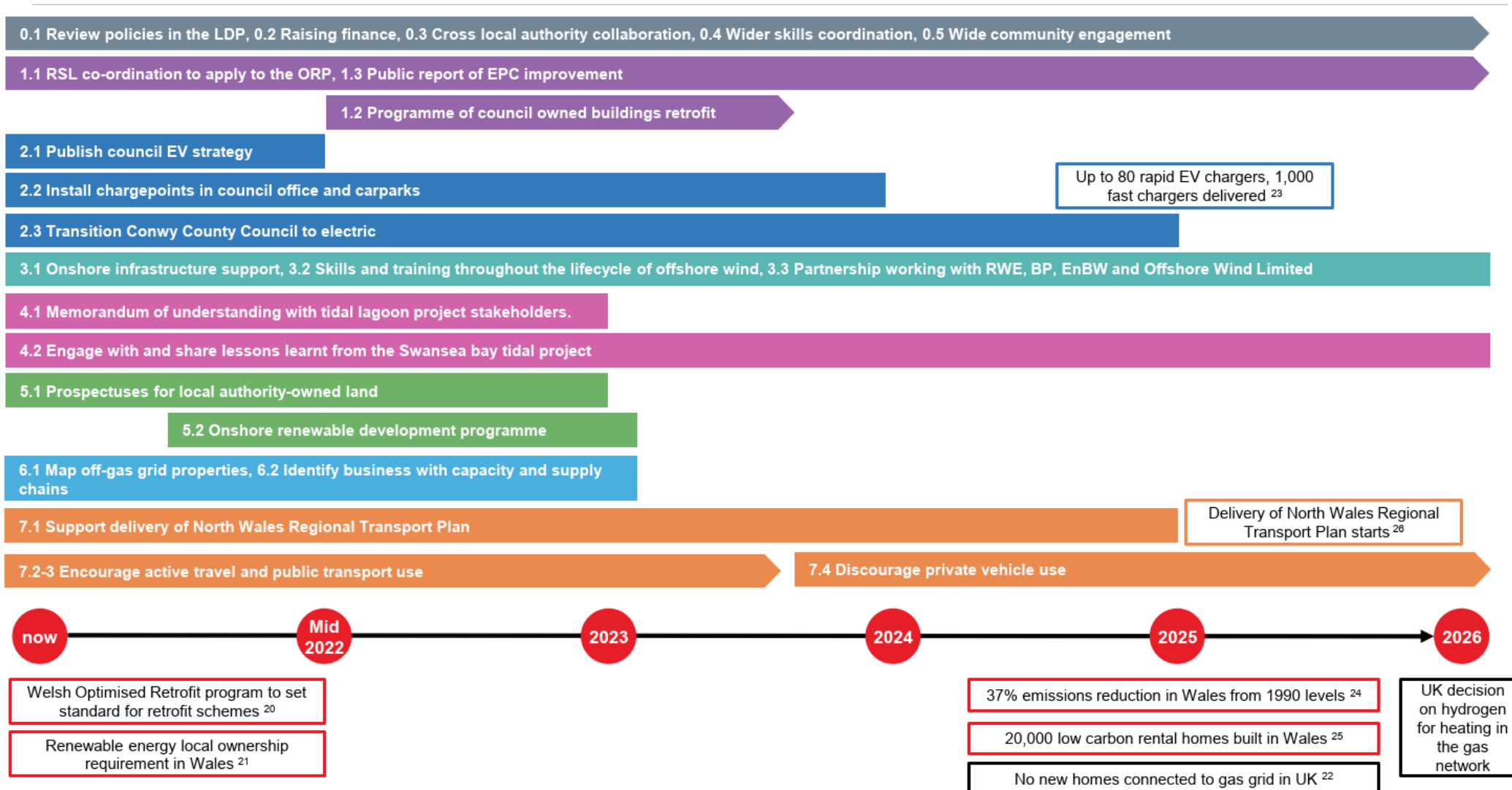
- Actions to mobilise **finance**,
- A strong and consistent **policy** framework,
- Accountable **delivery** owners and
- A **community engagement** element.

“Each intervention requires four key elements to be successful: Mobilising finance, Strong and consistent policy frameworks, Delivery owners and Community engagement

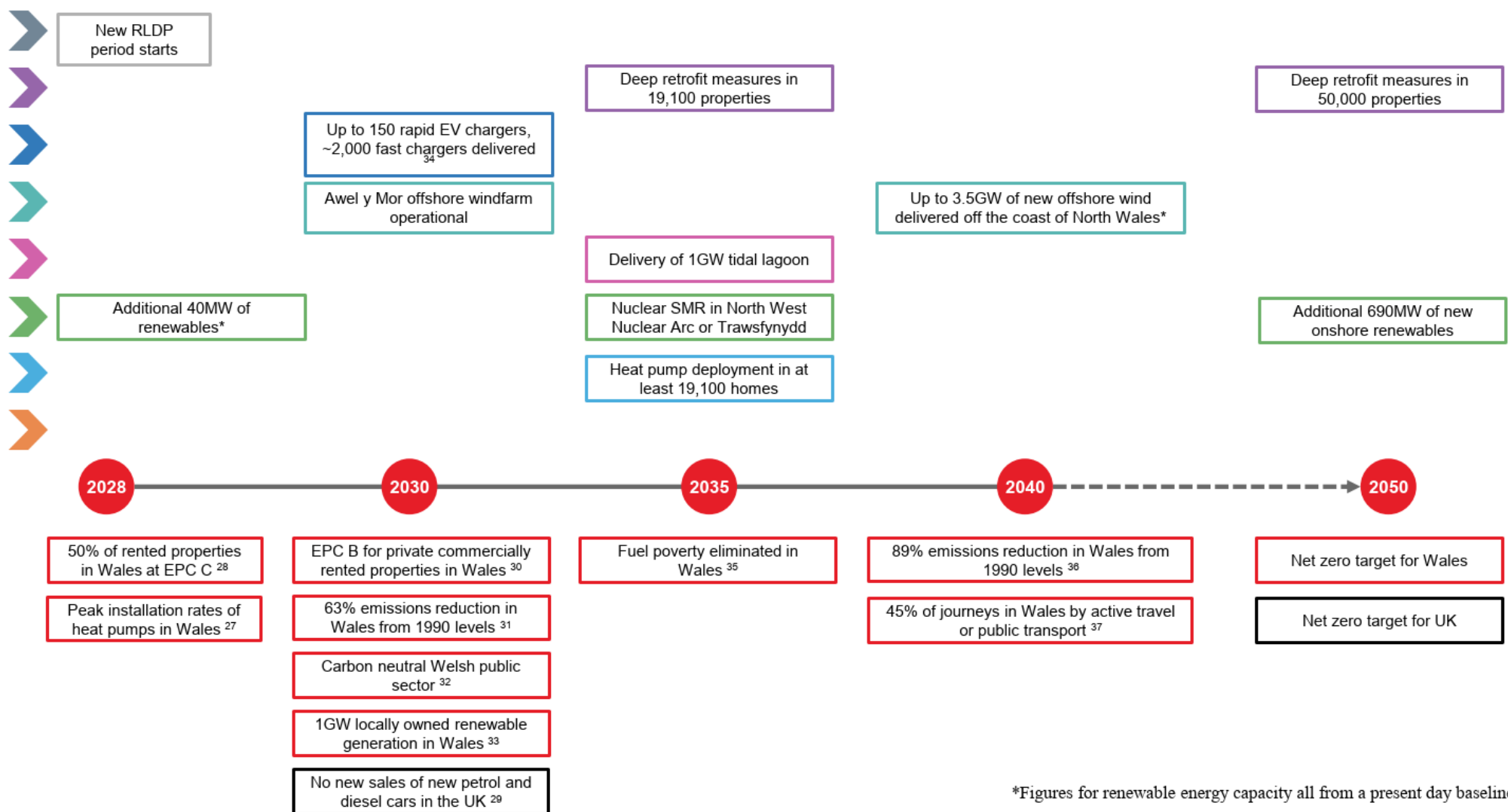
We have identified four key elements for our interventions to be successful

4. What needs to happen?

Short term routemap



4. What needs to happen? Medium-long term routemap



5. What are we going to do?

Our actions and asks from others

1. Action on whole building retrofit (insulation, efficiency measures and behind the meter generation)

Action 1.1 RSL coordination to apply to the Optimised Retrofit Programme (ORP). Conwy will partner with Registered Providers of social housing to monitor plans for future phases of the ORP and put in an application if/when appropriate.

Benefit Learnings from retrofitting the social housing sector will support the development of approaches to decarbonising private rented and owner occupied sectors. Prioritising work on social housing properties is progressive and will also help accelerate the growth of Welsh SMEs in this market

Timescale 2022 - ongoing

From others we need: Co-ordinated efforts by Welsh Government and skills bodies to address the skills and materials shortage in the construction sector. Funding may be needed for a dedicated role to coordinate this action.

Action 1.2 Programme of council owned buildings retrofit. We will design and launch a programme of building retrofit focusing on

council owned non residential buildings

Benefit Learnings from retrofitting public sector buildings will support the development of approaches to decarbonising the private sector.

Timescale This will be completed in 2022 with the programme of works to launch in 2023.

From others we need We require access to finance such as zero interest loans, or 'on bill' financing, support in the technical delivery, and (funding for) technical advice on the appropriate retrofit measures for each building and building prioritisation.

Action 1.3 Public reporting of level of EPC improvement. Conwy Council will publicly report against progress to improve the privately rented domestic and commercial building stock

Benefit Public reporting will hold us to account and ensure that minimum requirements are met.

Timescale This will be ongoing from January 2022



Ysgol Bro Gwydir School, Llanrwst, Conwy

5. What are we going to do?

Our actions and asks from others

2. Action on delivering public EV charging infrastructure

Action 2.1 Publish council EV

strategy/approach. We will set out priority geographical areas for the roll out of EV charging infrastructure, as well as the procurement, ownership, revenue and management frameworks.

Benefit Setting out the priority areas will enable the systematic and transparent roll out of EV technology, and outlining the councils preferred procurement, ownership and management frameworks ahead of time will give clarity to discussions with installers and commercial charging providers. This exercise will also help clarify the advantages and risks of outsourcing provision.

Timescale This work will commence immediately and conclude in summer 2022.

From others we need Advice from the Local Government Association and others on considering different management and ownership frameworks will be valuable.

Action 2.2 Install charging points in council offices and car parks.

Benefit This will signal council intent, and provide a testing ground for the delivery of public EV infrastructure in the local authority, supporting the wider take up in market driven schemes elsewhere.

Timescale We will deliver charging points in all council offices and car parking spaces from January 2022 to January 2024.

From others we need We need technical advice on grid connection from SPEN and installers, as well as extra resources (capital and revenue) to increase the pace of installation.

Action 2.3 Transition Conwy County Borough Council owned fleet of vehicles to electric.

Benefit This will signal council intent on the transition to electric vehicles.

Timescale We will transition the fleet of council owned vehicles by 2025.



A470 Dolwyddelan to Pont-yr-Afanc, Lledr Valley

5. What are we going to do?

Our actions and asks from others

3. Action on development of offshore wind

Action 3.1 Onshore infrastructure support.

We will support onshore infrastructure that is required to maximise the benefits of offshore wind installations for Conwy.

Benefit Offshore wind farms off North Wales Coast, although a national asset, can deliver significant economic benefits to Conwy. We can facilitate this through our role in developing supporting infrastructure, such as grid connection points and port infrastructure.

Timescale – In concert with the development of offshore wind farms.

From others we need. We need technical advice on the nature of onshore development needed to future proof the region for connection and installation of further windfarms in the East Irish Sea.

Action 3.2 – Skills and training throughout the lifecycle of offshore wind. We will work to integrate Conwy into the regional hub of offshore wind in Wales.

Benefit Offshore wind presents a large opportunity for economic growth in the region, providing high quality jobs in manufacturing, maintenance and end of life decommissioning. We can be active in capturing these benefits through targeted skills and training interventions

Timescale Immediate start, ongoing.

From others we need We need support from Coleg Llandrillo and Ambition North Wales to develop targeted recruitment, skills and apprenticeship training.

Action 3.3 Partnership working with RWE, BP, EnBW and Offshore Wind Limited. We will work with RWE and other developers to address our concerns over offshore developments and maximise the benefits to CCBC from the extension and new installations wind farms.

Benefit Extensions to existing sites are a cost effective way of enabling new offshore capacity, and we are in principle supportive of additional offshore installations We are happy to build on developer's existing knowledge and expertise and

acknowledge the large community benefits already delivered from Gywnt y Mor, North Hoyle and Rhyl Flats. Continuing to be proactive in our engagement with developers will ensure that community benefit contributions address council priorities, both now and in the future.

Timescale Immediate start and ongoing.

From others we need We need developers to be conscious of council priorities, when offering community benefit contributions, including their support to Welsh Governments renewable energy local ownership requirements.

5. What are we going to do?

Our actions and asks from others

4. Action on development of tidal lagoon infrastructure

Action 4.1 Memorandum of understanding with tidal lagoon stakeholders. We will work with private sector stakeholders of the tidal lagoon to develop a Memorandum of Understanding once the Welsh Government's tidal competition is concluded.

Benefit We recognise that private sector developers will be critical to the delivery of tidal lagoon infrastructure, with the local flood risk reduction benefits and economic benefits that will accrue.

Timescale By 2022

From others we need Collaboration from tidal lagoon project stakeholders

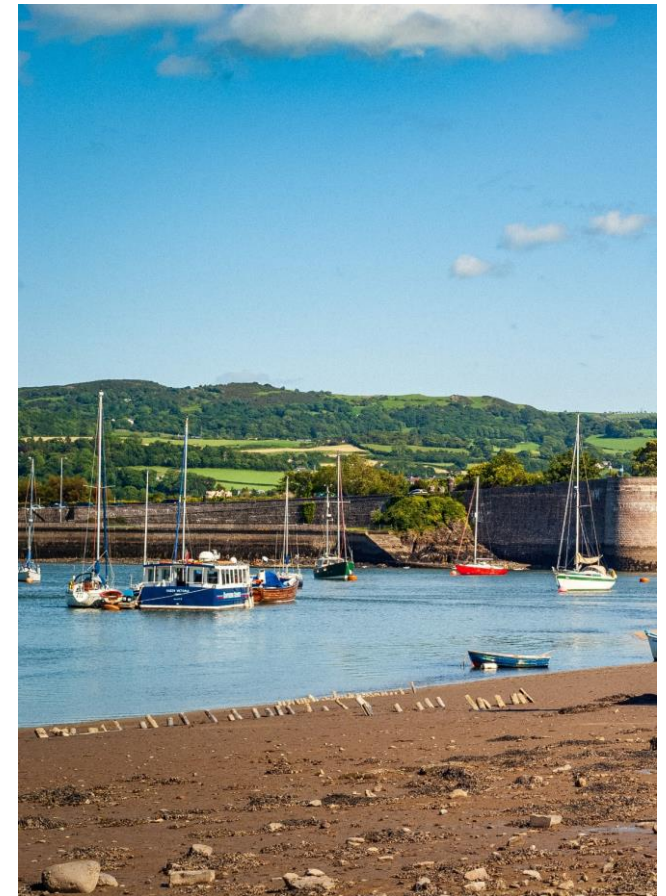
Action 4.2. Engage with and share lessons learnt from the Swansea bay tidal project. We will engage with local authorities where tidal power has been encouraged, such as Swansea and Liverpool in order to learn lessons and maximise the benefits to Conwy.

Benefit we can reduce the risk of making

mistakes twice or of duplicating work.

Timescale 2022 and ongoing

From others we need Collaboration from other local authorities



Conwy Harbour

5. What are we going to do?

Our actions and asks from others

5. Action on onshore renewables

Action 5.1 Prospectuses for local authority land. We will publish detailed prospectuses for local authority owned land, with clear guidance to potential developers on our expectations for local ownership, commercial arrangements environmental stewardship and co-benefits.

Benefit This will maximise the opportunity for renewable energy development whilst minimising the expenditure of the public sector.

Updating policy in the local development plan will provide the market with a clear signal about the appetite for development within the LA area.

Timescale This will be a year long process starting in January 2022.

From others we need: We require support and buy in from the local community for enhancing the generation assets around Conwy.

Action 5.2 Programme for onshore renewable development We will develop a programme of renewable energy development with appropriate commercial models. We will consider the merits

of different ownership strategies and commercial models from self developing land, to acquiring a finished or a commissioned project from a third party. This evidence can be used to support the development of the RLDP update to consider the most appropriate models to meet the needs of Conwy. The RLDP also contributes to this programme and will maximise a sense of local ownership.

Benefit Developing a plan for renewable energy development and the and the risks and benefits of different ownership models each will streamline council decision making.

Timescale This will be completed in the 2022-2023 financial year.

5. What are we going to do?

Our actions and asks from others

6. Action on heat pump deployment in off gas grid properties

Action 6.1 Map off gas grid properties and their ownership types. We will map in more granular detail the off and on gas grid properties and their ownership types to prioritise properties for fuel switching.

Benefit This mapping exercise will enable us to prioritise properties for intervention based on ownership type and heating fuel source.

Timescale Immediate start to conclude by Summer 2022

From others we need We ask that Welsh and UK government further incentivises households off the gas grid to switch their domestic heating system, either through taxes on solid fuels, incentives, or mandating heating retrofit measures in critical parts of the buildings lifetime such as change of owner or tenant. We need SPEN to actively plan for grid reinforcement that may be needed to support increased electrification loads.

Action 6.2 Identify business with capacity and wider supply chains. We will identify and

champion local businesses and SMEs with the capacity and skills to deliver installations of heat pumps in off gas grid properties, prioritising those transitioning from high carbon intensive industries.

Benefit This will support the development of low carbon jobs in Conwy and a just transition.

Timescale Immediate start to conclude by Summer 2022.

From others we need We will need support from further education colleges and training providers to analyse training needs, develop and deliver courses for heat pump installations.

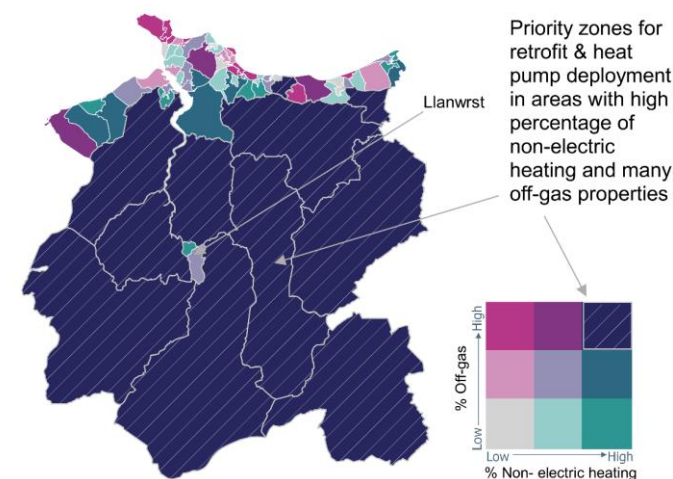


Figure 13: Priority zones for heat pump deployment

5. What are we going to do?

Our actions and asks from others

7. Action on transport energy demand reduction

Action 7.1 Collaborate and support the delivery of the North Wales Regional Transport Plan. We will play an active role in the Corporate Joint Committees shaping of our regional transport plan, following the publication of Llwybr Newydd.

Benefit The regional transport plans have the opportunity to tailor the delivery of transport interventions that works for Conwy and the wider community .

Timescale New regional transport plan to be in place no later than 2025.

From others we need We need engagement and buy in from the Corporate Joint Committees identified in Llwybr Newydd.

Action 7.2 Encourage active travel. We will work to improve cycleways and footpaths, connecting homes, workplaces and leisure, and consider pilot schemes for electric bikes and scooters. We will get buy in at the local level to design these interventions such that it meets our needs and circumstances.

Benefit Greater uptake of walking and cycling for short journeys removes cars from the road encourages the community to be more active and ultimately enhances well being.

Timescale Starting immediately and ongoing.

Action 7.3 Encourage public transport patronage. In line with Llwybr Newydd, we will work with partners to increase the reliability, safety and frequency of public transport, focusing especially on extending the reach of public transport in rural Conwy.

Benefit Increasing public transport patronage will reduce the overall energy use of the transport system, reduce emissions and increase air quality.

Timescale Starting immediately and ongoing.

From others we need We need a joined up approach to public transport investment across government and in regional planning

Action 7.4 Discourage private vehicle use. We will consider a range of options to discourage private vehicle use, from a workplace charging levy to congestion charging.

Benefit This demonstrates the Council's intent to deliver the transport hierarchy by incentivising a modal shift in transport towards more sustainable forms of travel.

Timescale Following the successful introduction of alternative transport options, we will consider options to discourage private vehicles use where fair and progressive.

From others we need Encouraging our community to adopt more sustainable transport options will require consistent two-way engagement and consultation.

5. What are we going to do?

Our actions and asks from others

Enabling actions

Action 0.1 Review policies in the LDP on energy - including EVs, local generation, and energy efficiencies. We will undertake a detailed review of the LDP policies and allocations. We will build on the evidence developed to support this plan.

Benefit The review will ensure aligned local policy and clear signal of intent to developers in the private sector.

Timescale. Immediate start, to conclude by 2024.

Action 0.2 Raising finance. We will develop a plan for funding arrangements to support the delivery of local authority program of works. This may be from usual capital markets or through more innovative financing mechanisms such as community municipal investments.

Benefit Funding arrangements will facilitate the delivery of this plan

Timescale. Immediate start plan to be in place by mid 2022.

From others we need We require initial gap funding to deliver a pipeline of works.

Action 0.3 Cross local authority collaboration. We will work with local authorities across Wales to develop opportunities for investment in energy projects at scale.

Benefit Pooling potential investable opportunities across multiple local authorities will make them more attractive to potential investors.

Timescale Immediate start, ongoing

From others we need We need other local authorities to work with us, and Welsh Government's support in the roll out of their LAEP program, and support as the facilitator of these collaborations.

Action 0.4 Wider skills coordination. The transition to net zero requires coordinated skills investment, with a priority in retraining those in sectors that are likely to be impacted more by the transition. We will work with our regional skills partnership to understand employer needs, skills gaps and funding requirements.

Benefit In order for Conwy to benefit from the net zero transition we can be proactive in encouraging government and the private sector to release funds for developing skills and expertise in established and emerging low carbon technologies, building retrofit, and heat pump installations.

Timescale Immediate start, ongoing.

From others we need Welsh Government will publish a Net Zero Wales Skills Action Plan in Spring 2022. We need defined industry requirements, regulation to stimulate skills demand, consistent National Occupational Standards.

Action 0.5 Wide community engagement.

We will maximise a sense of local ownership through engaging widely with the community. The RLDP will support in this through its role in delivery on onshore renewables.

Timescale Immediate start, ongoing.

6. Governance, monitoring and review

Governance

Delivery of our Local Area Energy Plan will be overseen by Our Climate Challenge Programme Board. We will appoint a delivery programme manager, to lead the delivery of the actions in this plan.

Recognising the number of different stakeholders who play an important role in delivering the change that will be required to meet the objectives set out in this plan, we will also set up an advisory board to enable wider input into our plan.

Our ask of others

“We will need others to work with us as part of our advisory board.

We will need a delivery programme manager to support the delivery, monitoring and update of this plan. We request that Welsh Government considers how it could support this resource requirement.”

Monitoring and review

This plan sets out our key actions for the first five years that will set us on the right journey to achieve the ambitions in our longer-term routemap. The plan needs to be flexible to adapt to changes in the future.

We will produce an annual monitoring report, building on the Welsh Government's *Energy Generation in Wales* reports, which will describe our progress against the actions set out in this plan, and also against key output metrics as follows:

- Number of homes retrofitted
- Number of non-domestic buildings retrofitted
- Number of EV charging points installed
- MW renewables installed
- Heat pumps installed

We will develop a baseline understanding of these metrics based on existing data and monitor changes annually.

We will also track carbon emissions reduction, but recognise that available data will lag a few years behind.

The whole plan will be updated at least every five years to take account of key factors, including:

- Policy changes at a UK and Welsh Government level
- Changes in costs and effectiveness of technologies
- Progress to date.

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