Cyngor Sir **Powys** County Council

Powys: Electric Vehicle Charging Infrastructure Strategy

July 2025

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Glossary

BEV	**Battery Electric Vehicle:** A vehicle powered entirely by electricity stored in batteries.
CPO	**Chargepoint Operator:** An entity responsible for the operation and maintenance of EV chargepoints.
DNO	**Distribution Network Operator:** A company that operates the electricity distribution network in a specific area.
EV	**Electric Vehicle:** A vehicle that uses one or more electric motors for propulsion.
kW	**Kilowatt:** A unit of power equal to 1,000 watts. Refers to the power rating of EV chargepoints.
kWh	**Kilowatt Hour:** A unit of energy representing one kilowatt of power used for one hour. Used to measure the capacity of the EV's battery.
LAEP	**Local Authority Energy Plan:** A strategic plan for energy infrastructure and services within a local area.
OZEV	**Office for Zero Emission Vehicles:** The UK Government office that supports the transition to zero-emission vehicles.
ULEV	**Ultra-Low Emission Vehicles:** Low emission vehicles that emit 75g/km of carbon emissions or less.
PHEV	**Plug-In Hybrid Electric Vehicle:** A vehicle that can be powered by both an internal combustion engine and electric.
ZEV	**Zero Emission Vehicle:** A vehicle that produces no tailpipe emissions.

Executive Summary

In 2020, Powys Council declared a climate emergency[1] and in support of this the Council have set a goal to reduce its carbon emissions to net zero in line with the Welsh public sector target of 2030. A key component of this goal is to decarbonise the transport system and support a transition to electric vehicles (EVs). The Council is adopting a proactive approach to EV chargepoint delivery to ensure Powys has a sufficient level of EV chargepoint provision across the county. We will facilitate the development of a fair and accessible public EV chargepoint network that provides high quality chargepoints to our residents, businesses, visitors and tourists.

EV uptake in Powys is growing. It is just behind the Welsh average but it is forecast to continue growing at an accelerating rate as the Government ban on petrol, hybrid and diesel-powered vehicles come into effect from as early as 2030. However, key barriers to EV uptake in Powys include the lack of a second-hand EV market, high upfront costs, lack of availability of EV charging infrastructure contributing to range anxiety and perceived challenges of using EVs in rural areas.

The Council has developed this draft EV Strategy to outline the necessary steps to help overcome these barriers and support future EV chargepoint infrastructure grant funding applications to deliver a network of high quality and accessible EV charging infrastructure in Powys.

The strategy identifies:

Powys Council have been increasing their EV chargepoint network, particularly in key destination and gateway areas that cater to local trip attractors and wider local use, particularly for those residents without access to off-street parking. To date the Council's public EV chargepoint infrastructure has been implemented within the Council's public car parks.

This EV Strategy has been created to facilitate a scalable and achievable transition towards Zero Emission Vehicles over the next five years, as part of Powys' commitment to addressing the climate emergency. This Strategy includes an action plan detailing how the EV Strategy will be implemented in Powys, supporting the delivery of our objectives and principles for EV chargepoint infrastructure and the realisation of our vision.

[1] https://en.powys.gov.uk/climatechange

1 Introduction

1.1 Purpose of our EV Strategy

In September 2023, the UK Government announced that there will be a ban on the sale of new petrol and diesel cars and vans from 2035 (amending the previous ambition from 2030). The date for implementing the ban is now under consultation, but currently under the Zero Emission Vehicle Mandate 80% of new cars and 70% of new vans sold in the UK must be zero emission by 2030, increasing to 100% by 2035. The UK's Office of Zero Emission Vehicles (OZEV) has highlighted the crucial role of local authorities in facilitating the uptake of EVs and the development of an accessible and high-quality public EV chargepoint network.

Powys County Council recognises our social responsibility in the decarbonisation of the transport system. The transition needs to be equitable, and this is in line with our net zero carbon commitments, local and national policy. We play an important role in supporting the growth of EVs, including the delivery of new chargepoint facilities where they are needed most. This is particularly necessary for residents without off-street parking, both promoting their benefits to a wider audience, and leading by example. This strategy is the initial step to delivering a county wide network of EV chargepoint provision, illustrating our commitment to promoting EVs and their many benefits, by providing confidence in a robust EV chargepoint network.

It is important to note that as a local authority, Powys faces additional challenges due to its rural geography and topography. There is a risk that more rural locations which have a greater dependence on car travel could be left behind in the shift to EV. The Council aim to overcome these challenges by taking a targeted approach to deliver the vision for EVs and meeting the unique requirements of Powys. We aim to facilitate the delivery of an accessible and robust EV chargepoint network for our residents, businesses, visitors and tourists. Through the efficient use of public funds and leveraging the provision of private sector led EV chargepoint infrastructure, where appropriate, we will support the development of an evenly distributed network which covers our large geographic area. Our overall vision for EV charging infrastructure, supported by four objectives and six principles, is outlined below.

The EV Strategy is being / has been developed in collaboration with Powys County Council, council members, officers and other key stakeholders. We will continue to update and

engage with these stakeholders throughout the implementation of the strategy to ensure that needs of our community are considered.

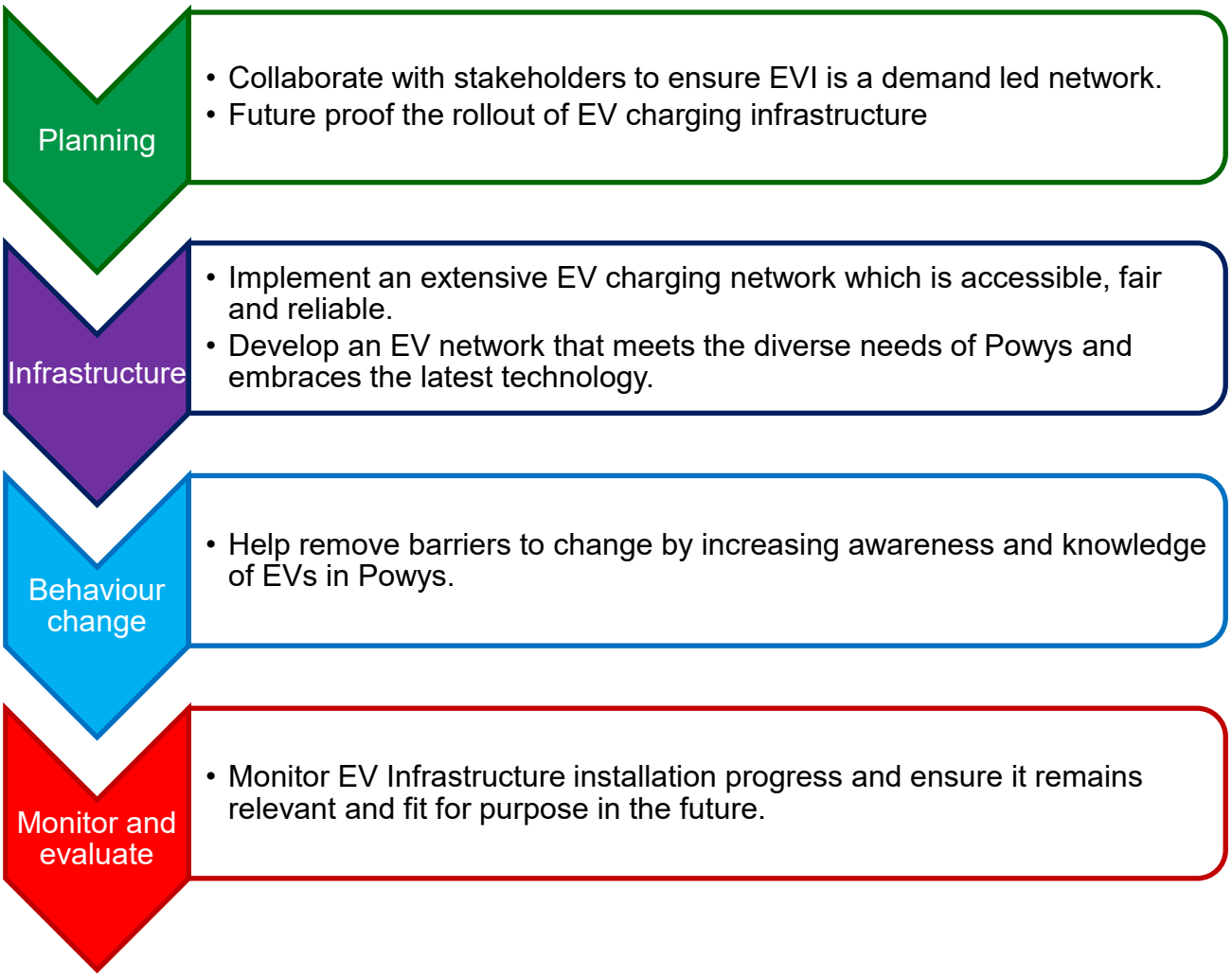
Our Vision

Powys County Council will help facilitate the development of a fair and accessible public EV chargepoint network that provides high-quality chargepoints to all those who live, work and visit Powys, supporting our ongoing commitment to reducing carbon emissions.

Our objectives

A set of objectives (see the figure below) have been identified which underpin the achievement of our vision. Our objectives are split across four key areas, these include:

1. **Planning**
2. **Infrastructure**
3. **Behaviour change**
4. **Monitor and evaluate**



Our principles for EV chargepoints

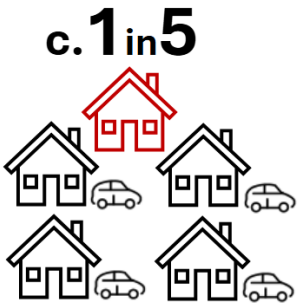
We have identified a set of six principles which will underpin our EV chargepoint roll-out in Powys.

1. **1.** Assess local needs through a demand-driven approach to EV chargepoint delivery
2. **2.** A fair and accessible network of EV chargepoints, so nobody feels left behind.
3. **3.** A future proofed robust, reliable and high-quality network, which can serve different charging uses.
4. **4.** Encourage regional partnerships in EVI delivery.
5. **5.** Support the community with current information to raise awareness and inspire change.
6. **6.** To be self-sustaining, funded through income, grants and private sector investments, with no cost to Powys taxpayers.

1.2 Importance of EV adoption

In the UK, Transport was the largest CO_2 emitting sector in 2023, responsible for over a quarter of all emissions[2]. In order for the UK to achieve the UK Governments net zero mandate for emissions by 2050, there needs to be widespread transport decarbonisation.

Whilst technology alone will not deliver all of the carbon savings, EVs will play an important role in supporting transport decarbonisation beyond reduced travel and increased modal shift. Households in Powys that do not have access to off-street parking is estimated at 22%[3], lower than the average figure for the rest of the UK at 30%. Delivering affordable and accessible



22% of households in Powys with limited or no access to off-street parking

[2] https://assets.publishing.service.gov.uk/media/6604460f91a320001a82b0fd/uk-greenhouse-gas-emissions-provisional-figures-statistical-release-2023.pdf

[3] On Street Charging

on-street EV chargepoints is key to overcoming one of the biggest barriers to EV uptake. It is important that households have equitable access to the local EV chargepoint network.

1.3 What is driving the EV transition?

The transition to EVs in Wales is being driven by a number of factors which aim to address a range of challenges, such as the impact of climate change, these include:

2 Where are we now and where are we going?

2.1 Policy position

National policies from both the UK and Welsh Governments aim to encourage and promote the development of infrastructure necessary for the widespread adoption of EVs. These policies seek to reduce our carbon footprint by increasing the uptake of electric vehicles. Whilst other zero emission fuel options are available, such as hydrogen, it is currently considered that EVs are the most viable route to mass adoption of an alternative to fossil fuel vehicles in the UK.

The UK and Welsh Governments support this aim by supporting investment in public EV chargepoint infrastructure to help residents, businesses and local authorities install EV chargepoints points. Powys' EV Strategy is building on the ambitions, commitments and progress of the UK and Welsh Governments outlined below.

2.1.1 UK Government policy commitments

The UK Government has committed to achieving net zero emissions across all transport modes by 2050, as outlined in *'Decarbonising Transport: A Better Greener Britain' and 'Powering up Britain'*.

'Taking Charge'[4] sets out a national action plan for the implementation of EV chargepoint infrastructure. The vision is to remove barriers to EV uptake by making EV chargepoints

[4] https://assets.publishing.service.gov.uk/media/6245ba40e90e075f15381cf0/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf

more affordable and convenient so that everyone can find and access a reliable public chargepoint with effortless on and off-street charging options. In September 2023, the UK Government announced that new petrol and diesel cars and vans can continue to be sold in the UK until 2035, previously all new cars and vans must be full zero emission at the tailpipe by 2030. The date of the ban, potentially reverting to 2030, is being taken back to consultation with the motor industry and other stakeholders by the UK Labour Government.

The *'Public Chargepoint Regulations'* introduced in 2023 which aims to improve the EV user experience by introducing rules around contactless payment, transparent pricing, 99% reliability, open data and enhanced customer service through 24/7 helplines.

2.1.2 Welsh Government policy commitments

Welsh Government declared a climate emergency in 2019 and have committed to the delivery of Wales' target of net zero by 2050. The *'Prosperity for All: A Low Carbon Wales'* sets out how Wales would address its carbon budget obligations with five related to EVs.

The Welsh Government *'Electric Vehicle Charging Strategy 2022'* followed from the UK government guidance and sets out an objective that 'by 2025 all users of electric vans and cars in Wales are confident that they can access electric vehicle charging infrastructure when and where they need it'.

The Welsh Government position on EV charging is aligned with UK Government messaging and policy around the topic, with a targeted transition to EV being central to transport decarbonisation, removing charging infrastructure as a perceived and real barrier to EV adoption.

2.1.3 Powys policy commitments

The *'Powys Local Authority Energy Plan'* (LAEP) states that to reach a net zero energy system by 2050, the LEAP requires a capital investment of £1.3 billion with a transformed energy system of over 77,300 full electric vehicles. The LEAP highlights the most cost-effective way for the local area to decarbonise its energy system to help the UK meet its net zero target. Part of this includes spending £344 million on the distribution network by 2050 to ensure there is sufficient capacity to support the growth of low carbon technologies, such as EVs. Reducing dependence on private car use where possible through improved public transport and active travel options. A buildout of 2,500 public chargers by 2050, particularly home chagrining and tourist charging.

'Stronger, Fairer, Greener: Our Corporate and Strategic Equality Plan' outlines key objectives including but not limited to improving people's awareness of services and how to access them so the local community can make informed choices and working to tackle poverty and inequality to support the wellbeing of people in Powys.

The Powys *'Strategy for Climate Change'*[5] sets out a framework of actions to enable Powys to meet their net zero carbon goals. By achieving this goal, the Council will contribute to tackling the climate emergency and cutting emissions by at least 95% in Wales by 2050.

The *'Mid Wales Regional Transport Plan* highlighted that the vision for transport in mid Wales is to deliver an integrated and affordable transport system in the region that facilitates economic development and ensures access for all to services and opportunities. This will be achieved through several high-level interventions including improving strategic connections, improving accessibility to employability and services, encouraging walking and cycling, improving safety and security and integration of public transport networks.

2.2 Where are we now?

2.3 Powys context

Powys is a very rural county, located in Mid Wales and is geographically the largest authority in Wales covering approximately one quarter of Wales but only accounts for 4% of the total population in Wales. It consists of 60 electoral wards which vary from isolated rural villages and hamlets to more accessible market towns which serve larger areas. The dispersed population across settlements means that commercial public transport is limited, so dependency on private vehicle ownership and usage remains high. Powys is also home to the Bannau Brycheiniog (Brecon Beacons National Park) which receives over 3 million visitors annually, contributing significantly to the county's total of 4.8 million tourist visits each year, both from within and beyond the region.

The transport network is shaped by the hilly topography, rural geography and low population density. The A470 serves as a strategic route linking North and South Wales and plays a vital role in connecting towns in South and West Powys including Builth Wells, Rhayader and Llanidloes. The A483 connects South-west Wales with Llanwrtyd Wells, Builth Wells, Llandrindod Wells, continuing northward to Newtown and Welshpool, Oswestry and further into to Cheshire and North-West England. Two important east-west corridors also serve the region; the A458, which links to Shrewsbury and Birmingham and the A44, which connects into Herefordshire.

2.4 Role of the Council

This EV Strategy will help guide the Council to focus on the most suitable EV chargepoint infrastructure solutions in the most appropriate areas. The Council seeks to ensure a targeted approach to deliver their vision for EVs in Powys whilst overcoming topographical challenges and meeting the unique requirements of Powys. The Council will complement the

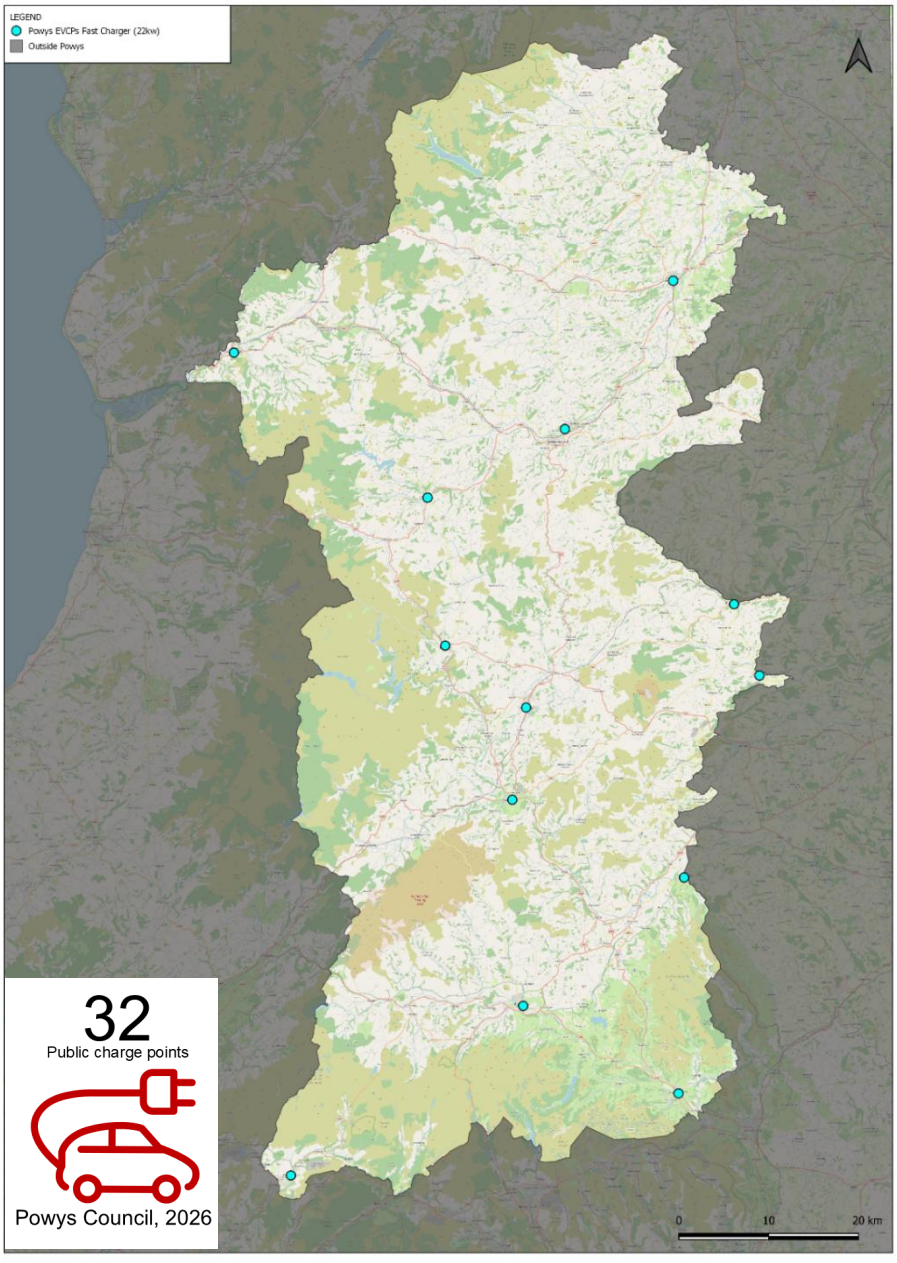
[5] https://powys.moderngov.co.uk/documents/s68654/Climate%20Change%20Strategy%20Appendix%20A.pdf

private sector offering and provide communities with an accessible and a robust EV chargepoint network for our residents, businesses, visitors and tourists.

The Strategy will support the Council with securing EV chargepoint infrastructure funding and grant applications. The Council will work in partnership with local businesses, stakeholders, the community and Welsh Government to ensure the network continues to meet emerging demand.

2.5 EV chargepoint deployment

To date, Powys Council have delivered 32 Council commissioned EV chargepoints, see adjacent map. Transport for Wales facilitated SWARCO in installing 13 rapid EV chargepoints in Powys along the strategic road network in collaboration with Welsh Government. The Council is committed to taking a proactive approach to ensure that residents, businesses, visitors and tourists have access to an accessible and convenient EV chargepoint network to support the transition to EVs in the local community.



4%

of households within 400m of an EV chargepoint

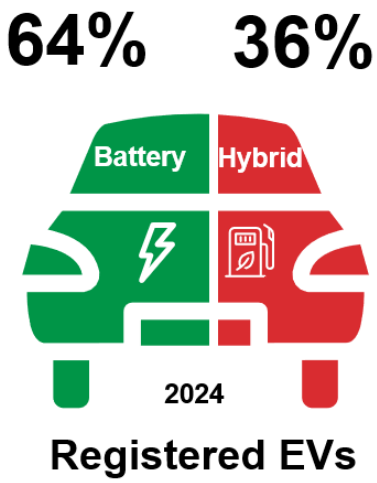
Collectively these chargers, along with those delivered by the private sector on their own land, form part of the total 192 public EV chargepoints in Powys.

In Powys the groups of people likely to be reliant on the public EV chargepoint network include:

- **Residents:** in urban and rural areas without access to off-street parking who may need to charge in Council car parks or areas with on-street EV charging solutions.
- **Businesses:** utilising workplace charging solutions or car parks to charge fleet vehicles such as taxis, car club cars and other EVs.
- **Tourists/visitors:** utilising destination and gateway charging options including local centres, visitor attractors, leisure centre car parks, retail areas and car parks.

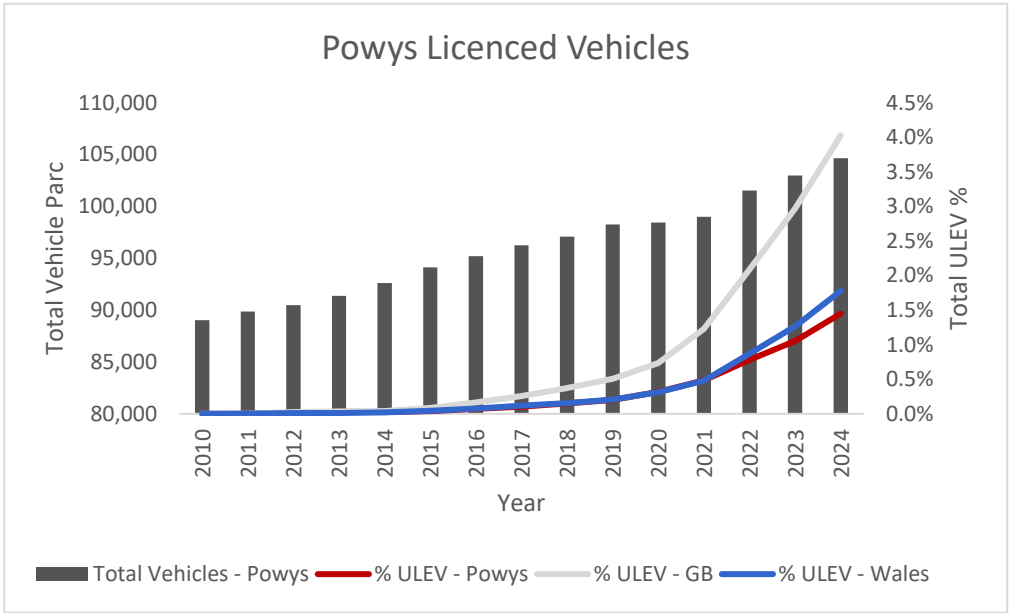
Powys County Council are committed to encouraging the uptake of EV in the county and the expansion of the Powys public EV chargepoint network will support EV adoption.

The adjacent figure shows that of the registered ULEVs in Powys to date, 64% are battery electric vehicles.



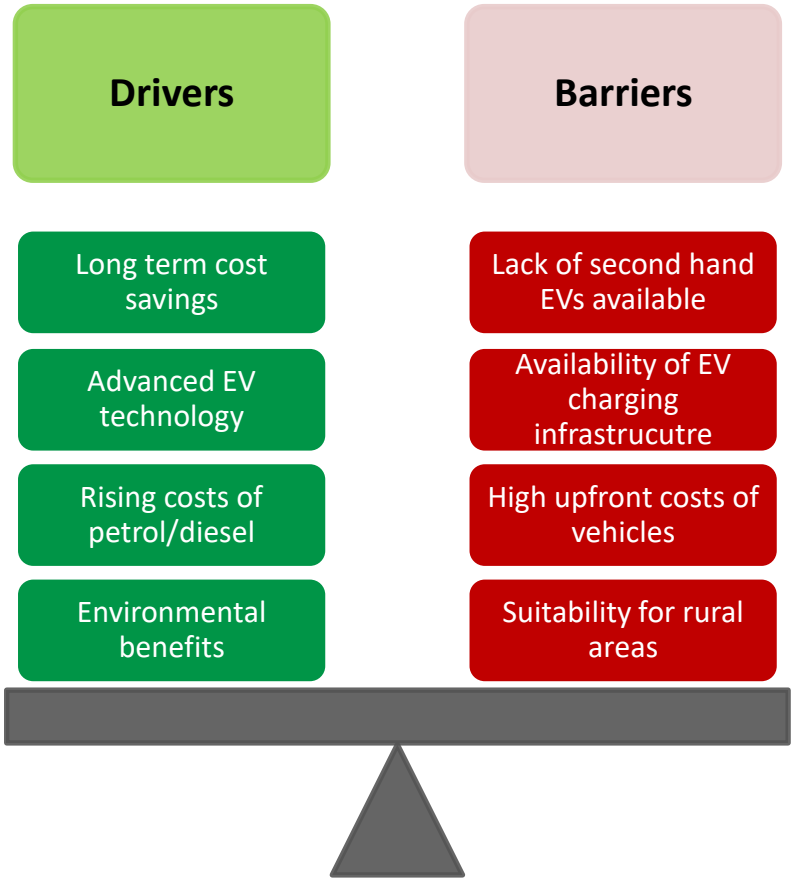
The figure below shows the increase in the number of registered EV's in Powys compared to the Wales and Great Britain. Powys has seen a steady increase in ULEV registrations since the Council declared a climate emergency in 2020. Since 2020, the ULEV licensed vehicle share has increased from 0.3% to 1.4% in 2024. This is similar to the Welsh average at 0.3% and 1.8% respectively but lower than the Great Britain (GB) average at 0.7% and 4.0% respectively.

These numbers are correct using the latest available data at the time of writing. To ensure the number of EVs continue to grow and does not plateau it is vital there is an equal network of public EV chargepoints across the Powys area which serve the needs of the Powys community.



2.6 Drivers and barriers to adoption

In developing the Strategy, we reviewed the key drivers and barriers to EV adoption in Powys from our consultation in 2022 with residents, visitors and businesses on their views on EVs, these are summarised in the adjacent figure. Overall consumer confidence is growing in EV technology, the majority of participants who responded to the consultation agreed that EVs are better for the environment and indicated a willingness to adopt them eventually. Visitors into Powys generally expressed greater positivity towards EVs and signalled a more accelerated uptake compared to Powys residents.



Some participants identified current barriers preventing them from switching to EVs including high upfront costs which can typically be higher than a traditional vehicle, poor availability of second hand EVs, lack of available EV charging infrastructure contributing to range anxiety and concerns around EVs not being suitable for rural living. Visitors also raised concerns around range anxiety in relation to completing longer journeys where they may need to recharge on-route or at their destination. Businesses cited the cost of installation being too high and the cost of running EV chargepoints too high alongside insufficient demand.

Powys in July 2025 has 143 chargepoints per 100,000 residents, the Welsh average is 112 chargepoints per 100,000 and the 2024 UK average is 121 chargepoints per 100,000. The Council seeks to remove as many barriers as possible to encourage EV adoption, to support the wider goal of providing a far and accessible network of high-quality EV chargepoints for all of those who live, work and visit Powys.

2.7 Where are we going?

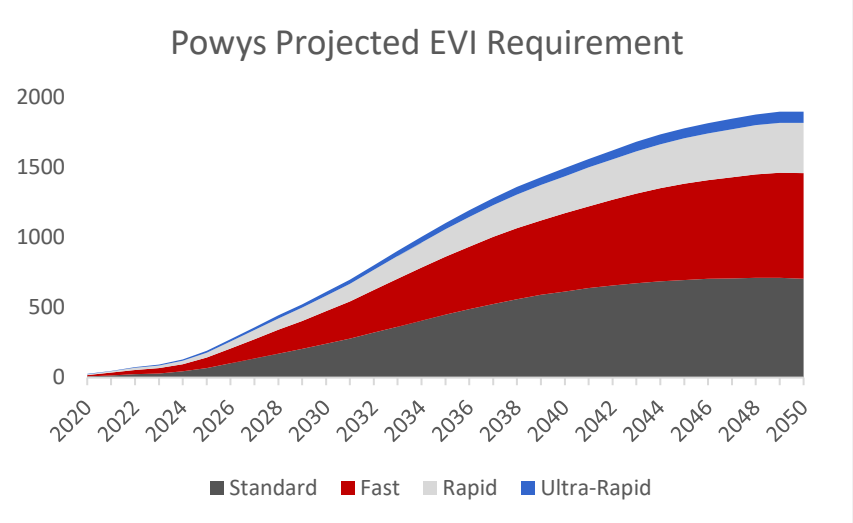
The Council understands that to achieve the vision of the EV Strategy, reduce our reliance on fossil fuel powered vehicles and encourage EV uptake, then the Powys community needs to have access to the right EV chargepoint infrastructure in the right places. Publicly accessible EV chargepoint infrastructure will be essential in achieving this ambition. The number of EVs in Powys and Wales is expected to continue to rise. This will be accelerated

by the UK Government ban on the sale of new petrol and diesel vehicles, with almost all fully electric by 2050.

Using the best available methodology for forecasting uptake of EVs – based on historic trends, local vehicle registrations and population demographics, a growth scenario has been produced for Powys. The National EV Insight & Support (NEVIS) tool developed by CENEX (see Appendix A) was used to develop our forecasts for EV chargepoint growth in Powys. Of three possible futures, the "medium" uptake approach is being considered by the Council. The medium approach assumes the ban is implemented in 2035 and that 100% of new car and van sales are EV by 2035. It is recognised that, following the planned consultation on a return to the 2030 date, this will present a worst case scenario.

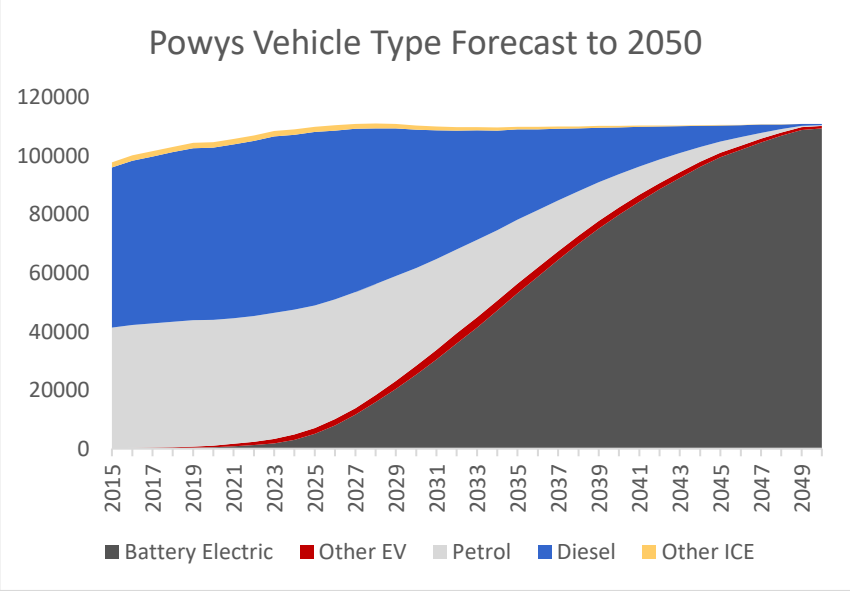
2.7.1 EV charging requirements

The NEVIS EV chargepoint infrastructure forecasts present forecasts for EV chargepoint infrastructure up to 2050. By 2030, it is forecasted that approximately 610 EV chargepoints will be needed across Powys to meet projected demand, increasing to 1,102 by 2035 and 1,894 by 2050. These figures represent the total estimated requirement and do not imply that Powys County Council will be solely responsible for their installation.



2.7.2 EV growth

The NEVIS vehicle type forecast presents forecasts for EVs until 2050 at the local authority level. Based on the medium scenario, Powys is forecast to have approximately 28,320 EVs by 2030, 56,357 EVs by 2035 and 110,236 by 2050.



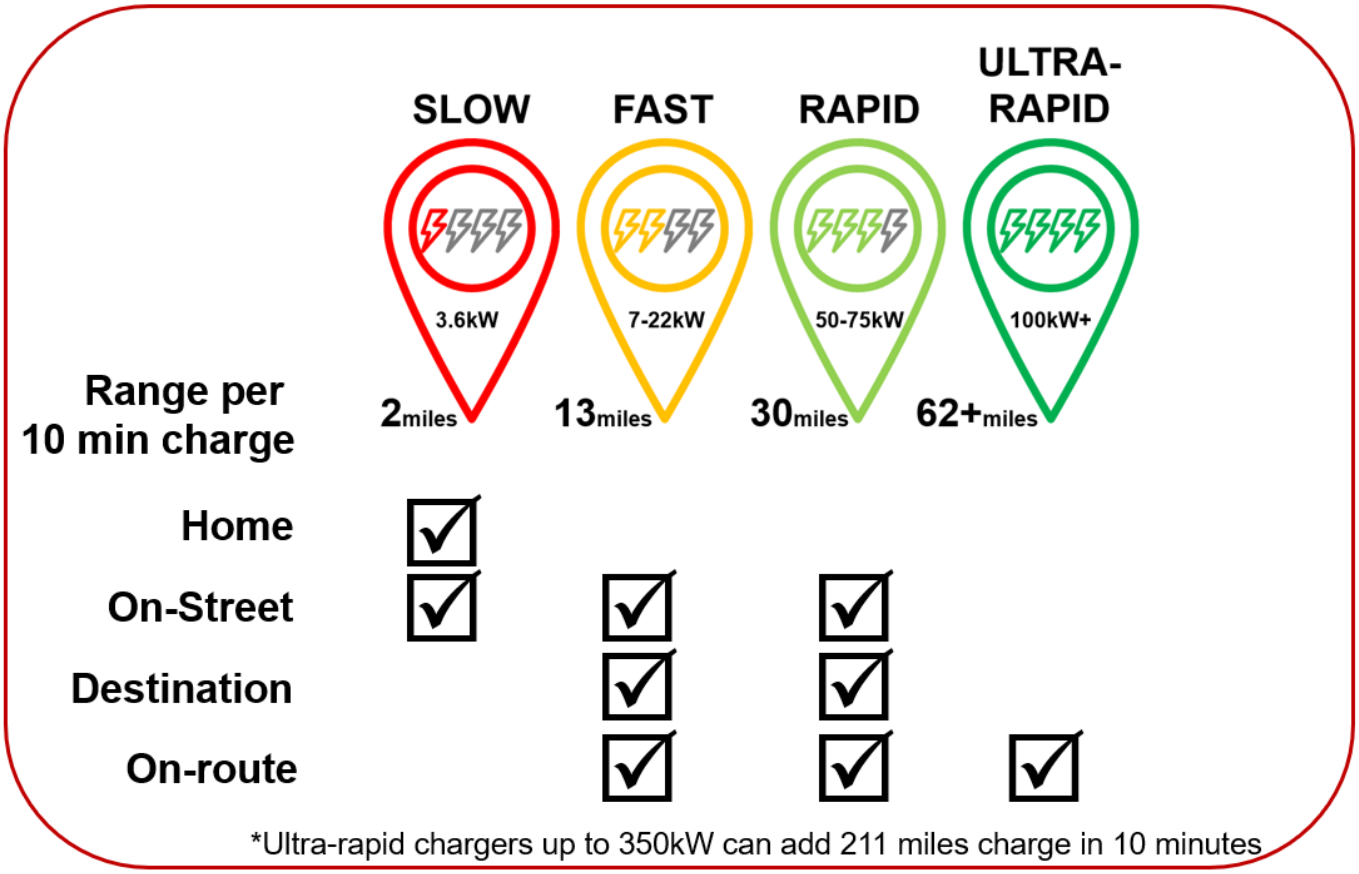
3 What are our chargepoint options?

3.1 Summary of EVCP technologies

The market currently offers several EV chargepoint infrastructure solutions, which meet different needs and use cases. EV owners have a range of options to decide where, how and when to charge their vehicles. EV chargepoint infrastructure is currently categorised by speed and power output across four types, see below figure.

It should be noted that in accordance with the Public Chargepoint Regulations 2023, EV chargepoint deployment will meet the following principles:

- 99% reliability of chargepoints
- Contactless payments for all >7kW chargepoints
- 24/7 helpline
- Transparent pricing



3.2 EV chargepoint typologies

For Powys County Council, the main EV chargepoint typologies identified in this strategy to support the creation of a suitable county-wide EV chargepoint infrastructure network is summarised in the table below.

Typologies		
Residents with off-street parking	Private home or apartment with parking off-street,	Available to EV users with access to off-street parking which takes advantage of long dwell times of vehicles and is best suited to slow or fast chargers.
Residents without off-street parking:	On-street charging	Trailing cables are not currently authorised; we are working with partners to develop future policy, licensing arrangements, and on-street charging pilots
In-transit	Service stations and existing petrol stations Lay-bys near areas of business activity	Typically requires rapid or ultra-rapid chargers due to the higher proportions of short dwell times.
Destination/Gateway	Town/local centre car parks Retail parks Visitor attractions Village halls / car parks Workplace parking	Defined as locations other than where the EV user resides, which include a broad range of dwell times and can accommodate fast, rapid and ultra rapid chargers depending on the average dwell times of vehicles.

3.3 Emerging EV chargepoint technologies

Several EV chargepoint technologies are being tested and piloted across the UK. The Council have conducted a review of these technologies and will continue to monitor the progress of trials and pilots, see the below table.

Wireless Charging
Wireless EV charging uses inductive charging technology to recharge the vehicle battery without the need for physical cables. The innovative technology is still being researched, tested and developed through a small number of pilots and trials globally. The technology is not currently commercially or technically ready.      ***Currently being trialled in:*** *Nottinghamshire trialling nine electric taxis fitted with wireless charging hardware & in London Borough of Redbridge residential wireless charging was explored.*
Advantages
• No street clutter and trip free way to run cables across pavements, reducing the risk of accidents. • EV owners are able to charge at home on their own energy supply, utilising cheaper tariffs. • Easy installation.
Disadvantages
• Vehicles will need to be retrofitted. • Low technology readiness level. • High cost of installation and maintenance. • Clear EV parking rules will be needed to avoid confusion and disputes and may need full-time enforcement.

Cable Gully Charging
Cable gully provides a solution to households who do not access to off-street parking. Cable gullies are channels installed in the pavement that provide a discreet and safe way to extend charging cables from homes to the roadside. Installation does not require heavy machinery and can be done by LAs.      ***Currently being trialled in:*** *Newport, Carmarthenshire and Blaenau Gwent.*

Advantages
• No street clutter and trip free way to run cables across pavements, reducing the risk of accidents. • EV owners are able to charge at home on their own energy supply, utilising cheaper tariffs. • Easy installation.
Disadvantages
• Can be expensive, especially if extensive groundwork is required. • New form of infrastructure requirements for LAs to update local policy planning and process. • Limited use for flats and multioccupancy residential buildings. • Installing cable channels can be difficult on uneven or mixed construction pavements and may affect long-term maintenance. • Cable channels may change the look of the street, especially in conservation areas. • Clear EV parking rules will be needed to avoid confusion and disputes and may need full-time enforcement.

Pop-up Pavement Charging
Pop-up EV chargepoints posts offer a solution to households who do not have off-street parking. They remain hidden in the pavement when not in use, keeping sidewalks clear. Currently, they are mostly available in trial phases in select cities. ***Currently being trialled in:*** *Brent, Camden, Oxford, Plymouth, Dundee and Staffordshire.* 
Advantages
• Minimised street clutter by promoting space efficiency due to being able to retract into ground when not in use. • They can be installed in clusters, allowing for multiple chargers in one area with extensive infrastructure changes. • Improved safety as they are flush in the pavement when not in use.
Disadvantages
• Initial high installation costs especially if groundwork is required. • Installation can be complex due to groundworks. • Not widely available, mostly in trial phases.

- Clear EV parking rules will be needed to avoid confusion and disputes and may need full-time enforcement.
- Residents may have to pay set charging rates which could be higher than charging at home

Roadside Cabinet / Lamppost Charging

Converting existing street furniture, such as roadside cabinets and lampposts is an approach which is widely used in several local authorities across the UK. This method uses existing power supplies, reducing the need for new construction and minimizing disruption, the solution is located at the rear of the footway.

Currently installed in: *over 30 on-street cabinets in Bedford and 540 lamppost chargers installed in Kensington and Chelsea to ensure 94% of residents are within 100 metres of an EV chargepoint.*

Advantages

- Utilising existing street furniture may be more cost effective.
- Potentially can be implemented faster than other technologies.
- Furniture is located in accessible areas making site selection easier.

Disadvantages

- Charging capability is currently limited to slow (7kW).
- Existing infrastructure may require more frequent maintenance.
- New form of infrastructure requirements for LAs to update local policy planning process.
- Clear EV parking rules will be needed to avoid confusion and disputes and may need full-time enforcement.
- Residents may have to pay set charging rates which could be higher than charging at home

3.4 Accessibility

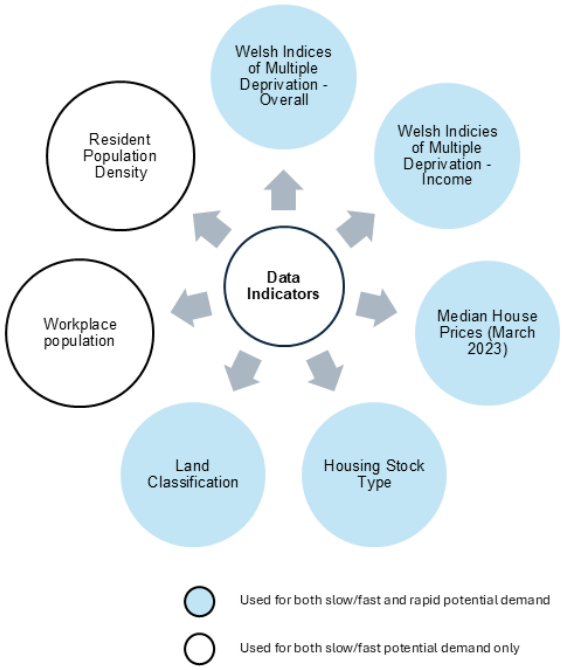
Powys are committed to supporting the development for an equitable EV chargepoint network for all of those who live, work and visit the county. Where a need for charge points is identified, the Council will explore the provision of high quality, accessible infrastructure that meets industry standards and does not negatively impact other road/pavement users.

4 Where are chargepoints needed?

4.1 Demand led approach

In order to achieve the delivery of the future forecasted number of chargers that will be required in Powys, it is important to consider where and when they are needed. We have used a demand led approach, (see Appendix B) local knowledge and insight to determine focus areas within Powys which are likely to require the largest share of the expected number of chargepoints over the next five years.

A range of indicators have been used to assess potential demand and variations for EVs for the whole of Powys (see figure to the right). The indicators used are in line with best practice for demand-forecasting for publicly accessible (i.e. not using private driveways) charging infrastructure and have been given variations in weighting dependent upon the different speeds of EV charging. For example, demand potential for rapid chargers gives a greater weighting to more urban retail type areas and rural areas, whilst slow/fast charging demand has given greater weighting to residential and employment type areas.

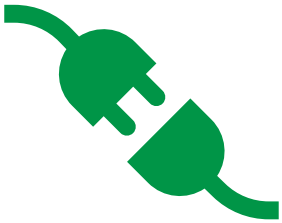


Our strategy will continue to identify areas of Powys where provision of EV charging infrastructure will be appropriate. These areas are based on:

- **Slow/Fast charging:** focusing on charging needs of residents without access to a driveway to charge their vehicles at home, alongside employees with extended periods at one location; and
- **Rapid charging:** at points of interest and at high demand locations, for fast top-up charging by residents, visitors and customers.

4.2 Key locations

EV chargepoint relative demand



To identify the most effective and equitable locations for EV charging infrastructure, the strategy adopts a demand-led approach using NEVIS forecast modelling. This tool provides spatially detailed projections of future EV uptake and charging demand, helping to highlight priority areas and key locations based on factors such as housing density, vehicle ownership, and travel behaviour.

However, national-level modelling frameworks like NEVIS may not fully capture the distinct challenges faced by rural areas. These include dispersed populations, limited public transport options, seasonal tourism fluctuations, and inconsistent digital connectivity — all of which can significantly influence EV charging needs in ways that standardised datasets may overlook. As such, a one-size-fits-all approach may be less effective for rural contexts and should be complemented by additional local insight.

To address this, greater intervention through human insight is essential. Local knowledge, planning expertise, and stakeholder engagement are used to interpret and refine model outputs, ensuring that key locations reflect both forecasted demand and lived experience. This blended approach supports targeted infrastructure delivery that is not only data-informed but also responsive to local conditions — enabling inclusive, context-sensitive transport solutions that align with wider decarbonisation and place-making objectives.

Building on the modelling and local validation, key locations for EV chargepoint deployment will be developed by considering practical factors such as land availability, grid capacity, accessibility, and alignment with local transport and regeneration priorities. This process will be shaped to ensure proposals are deliverable, inclusive, and locally responsive.

5 How will chargepoints be funded?

5.1 Current contract arrangements

Powys County Council currently has a contractor supply and install only contract. This means that Powys County Council owns, maintains and operates the public chargepoint infrastructure commissioned by the Council. There are public EV chargepoints across the network of 13 sites with 32 chargepoints. All sites are located in Powys Council car parks. Transport for Wales have facilitated the installation of 13 rapid EV chargepoints. in Powys along the strategic road network in collaboration with Welsh Government these were installed and are managed by SWARCO[6].

5.2 Commercial approach

As the EV market continues to evolve and mature, several commercial models have emerged for the deployment of public EV chargepoint infrastructure by local authorities. Across the market, there is a broad transition underway from full public sector investment through EV chargepoint ownership and management to alternative models which leverage private sector investment.

Whilst there are many variations to reflect the unique requirements of each local authority (see table below and Appendix C), Powys County Council has currently adopted the Own and Operate model where public EV chargepoints commissioned by the Council will be paid for and owned by the Council. This approach has been taken due to the lack of commercial interest in delivering EV infrastructure in the county, and it enables the Council to implement a demand led network that reflects the economic and geographic needs of Powys communities. In addition, the Council operates a land lease agreement with SWARCO for the rapid EV chargepoints across the county.

The Council is open to a different commercial approach at the most appropriate point in time. Each delivery model comes with its own individual strengths and weaknesses, with risk apportionment distributed differently across each option. A careful balance is required between the opportunity to generate revenue for Powys and the potential risks and other commercial considerations.

[6] SWARCO is a traffic technology corporation and have implemented EV chargepoints across the UK.

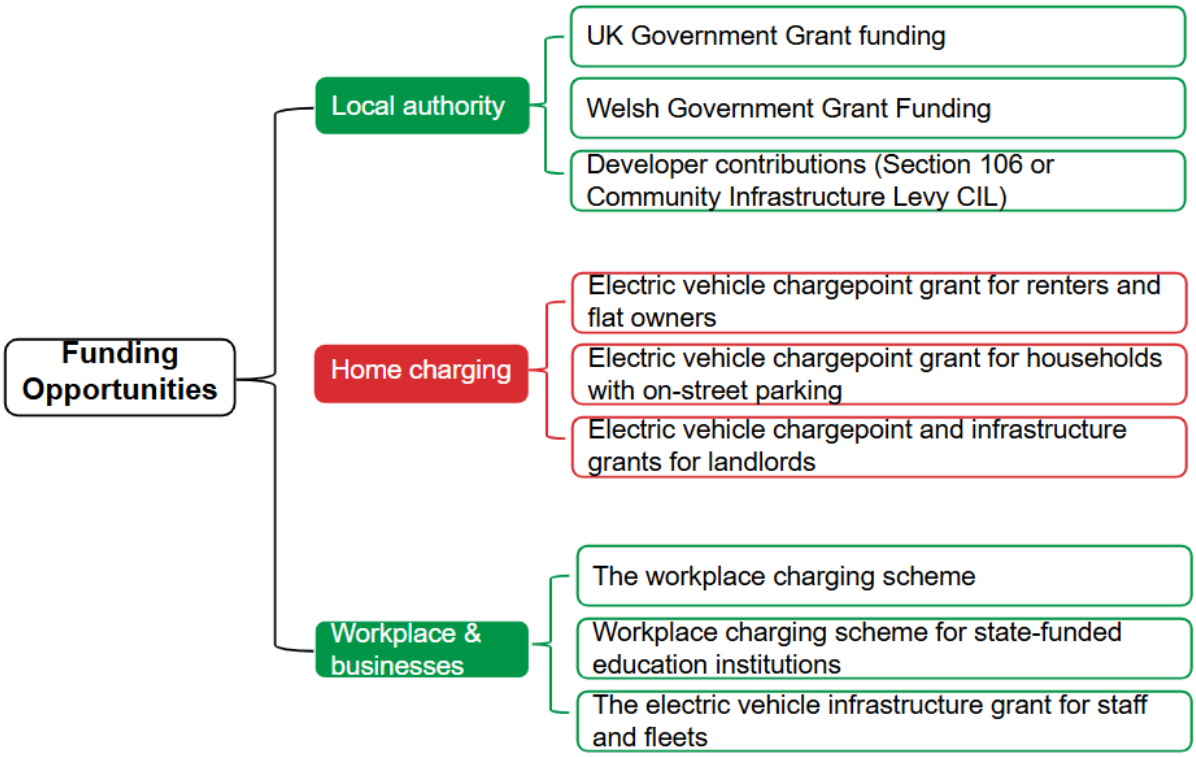
Delivery Models	Potential Control by Powys Council	Potential Risk to Powys Council
Own & Operate: (Contractor Supply and Install only) Paid for and owned by the public sector, with capital and maintenance costs recouped from usage charges. Operations are contracted to a CPO.	Highest	Highest
Joint Venture: A joint venture between a local authority and a partner business, sharing responsibilities, risks, and benefits, will establish a new entity to own and manage the chargepoint network.	High	High
Public Private Commercial Partnership – External Operator: Capital costs are funded by the public sector, while the Charge Point Operator (CPO) covers some or all ongoing expenses in return for a share of the revenue.	High	Medium
Public Private Commercial Partnership – Concession: Capital costs are usually partially funded by the public sector, with the remaining costs covered by the Charge Point Operator (CPO). All operational costs and risks are transferred to the CPO.	Medium	Low
Land lease: All costs paid by CPO, which is granted a long-term lease/ license by the Local Authority, to allow the CPO to recover its costs.	Low	Low
TfW supply / install, LA operate: Paid for and owned by TfW, with capital and maintenance costs recouped from usage charges. Operations are carried out by LA.	Medium	Low

5.3 Funding opportunities

There are several funding opportunities which can help contribute to the rollout of EV chargepoint infrastructure (see Appendix D). The Council has previously applied for funding grants from both the UK Government under the Ultra-Low Emission Vehicle (ULEV) grant and Welsh Government grants. The below figure summarises the relevant funding opportunities for Powys Council.

Car club permits

Alongside formal funding routes local authorities can also consider car club permit funding options. For example, some local authorities have combined their parking permit process for car clubs with a commitment to secure funding for an EV chargepoint from operators (where feasible). In the London Borough of Kensington and Chelsea the Council offer a £0 permit fee to car club operators for up to three years in return for installing an EV chargepoint.



6 When and how will chargepoints be delivered?

6.1 Action plan

Our six core objectives have been identified and will underpin the achievement of our vision, and a set of actions have been identified to help achieve each of these objectives. The action plan is presented in the table below.

There are proposed actions for each objective which are categorised into three timeframes:

- **Short-term:** 2026-2030
- **Medium-term:** 2030-2035
- **Long-term:** 2035-2050

Objectives	Action	Timescales
	Planning	
1. Collaborate with stakeholders to ensure EVI	1.1 Work with Transport for Wales, and Welsh Government, while engaging with the private sector, to explore the most appropriate models of delivery to facilitate and develop a cohesive EV infrastructure network.	Short-term

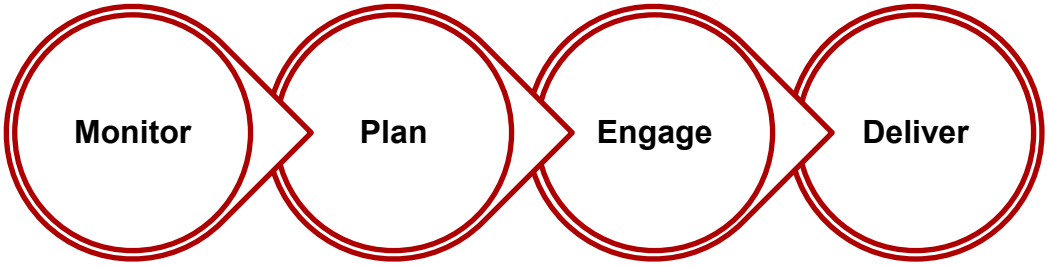
is a demand led network.	1.2 Identify key EV chargepoint locations and develop an EV chargepoint network which aims to ensure there is fair geographical access for all based on demand.	Short/medium/long term
2. Future proof the rollout of EV charging infrastructure.	2.1 Continue to monitor the stance of Welsh Government and neighbouring local authorities on solutions to trailing charging cables across footways.	Short-term
	2.2 Continue to monitor and evaluate EV adoption rates and future demand projections.	Medium-term
	2.3 Stay informed about the plan for future technological advancements to future proof the strategy.	Medium-term
Infrastructure		
3. Implement an extensive EV charging network which is accessible, fair and reliable.	3.1 Continue to engage and work in collaboration with private sector where available to identify key locations for EV chargepoint hubs	Medium-term
	3.2 Seek funding support from grants to expand EV chargepoint network across Powys.	Short/medium/long term
	3.3 Benchmark EV chargepoint tariffs against neighbouring local authorities and the private sector led EV chargepoints within Powys to ensure EV charging is reasonably priced.	Short-term
	3.4 Ensure EV chargepoints meet relevant best practice guidance and accessibility standards.	Short-term
4. Develop an EV network that meets the diverse needs of Powys and embraces the latest technology.	4.1 Support the creation of sustainable car clubs in our local areas.	Short-term
	4.2 Raise awareness of peer-to-peer community charging schemes which allow residents with no off-street parking to use residents private home chargepoints.	Short-term
	4.3 Where possible, integrate renewable energy sources with EV chargepoint hubs.	Medium-term
	4.4 Consider incorporating emerging technologies such as wireless charging or Vehicle to Grid (V2G).	Long-Term
	4.5 Continue to install chargepoints in Council car parks and key destinations using the latest technology (subject to funding and feasibility).	Short/medium-term
Behaviour change		

5. Help remove barriers to change by increasing awareness and knowledge of EVs in Powys.	5.1 Raise awareness through publicity campaigns to encourage modal shift (use of public transport / active travel) and use of non-fossil fuel powered vehicles.	Short-term
	5.2 Organise community engagement events to demonstrate how to use EV chargepoints and information on EV ownership.	Short-term
	5.3 Provide up to date information on ongoing EV chargepoint developments within Powys to keep the local community informed.	Short-term
Monitor and Evaluate		
6. Monitor EV Infrastructure installation progress and ensure it remains relevant and fit for purpose in the future.	6.1 Track progress by regularly monitoring usage of charging stations and gathering feedback from users.	Short/Medium/long-term
	6.2 Use live data and feedback from users to improve effectiveness of the charging network.	Short/Medium/long-term
	6.3 Make sure EV chargepoints are well managed and kept up to date. Use available funding to support upgrades and new technology.	Short/Medium/Long-term

6.2 Monitoring and evaluation

We will review and update the strategy periodically to ensure the delivery of actions and objectives. This will include sharing information and lessons learned with neighbouring counties and relevant stakeholders.

The Council will assign action owners to monitor the progress of each action and ensure there is clear evidence on action deliverability status, the action owner and the impact on the realisation of our vision, objectives and principles.

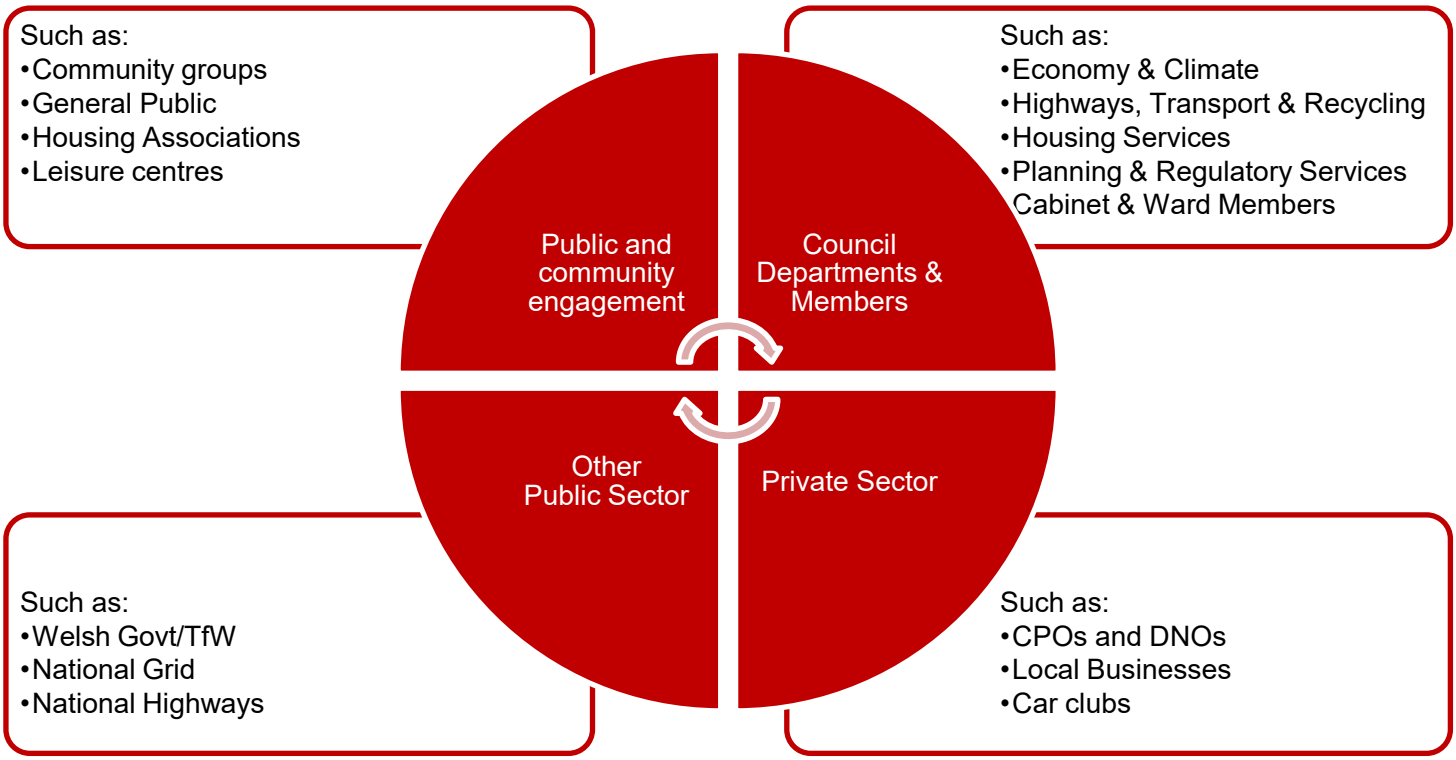


7 What happens next?

7.1 Public consultation

The Draft Strategy will be available for public consultation and/or feedback in 2025. As part of the engagement there are four key groups of stakeholders who will be consulted with:

- Public and Community Engagement
- Council Department & Members
- Other Public Sector
- Private Sector



7.2 Future updates of the Strategy

The adoption of EVs continues to develop at pace and as a result the EV Strategy will need to be regularly reviewed and reassessed to ensure it remains fit for purpose and continues to meet the needs and priorities of the community and the Council.

The Council will review the EV Strategy in five years, to ensure it continues to consider the local needs, most up to date policies and the EV chargepoint infrastructure best practice.

Appendix A: Adapted NEVIS EV Forecast Modelling Methodology

Utilising DfT vehicle registration and licensing data target points have been added to allow an adoption curve to be constructed from the historic data to the target. These target points are taken from existing policy positions:

- Low: ZEV mandate – Following minimum ZEV mandate BEV sales up to 80% at 2030 (70% for LCVs)
- Medium: 2035 ban – 100% of new car and LGV sales are BEV by 2035
- Fast: 2030 ban – 100% of sales are EV by 2030, and 100% BEV by 2035

In order to join the historic and target data points, an adoption curve is used for the different uptake scenarios (low, medium and fast). To determine the EV projection the total number of new vehicles was calculated as a percentage of the total vehicle parc. For reference, the average rate from 2015 to 2022 was 7% for cars and 8.8% for LGVs; this is assumed to remain constant through the model.

The model then multiplies the percentage of new vehicles by the current parc size for each new year projected. This provides the total number of new vehicles in the UK, where new EVs are split into BEV or Other but new ICE vehicles are split into Petrol, Diesel and Other ICE using an average ratio in the licensing data which remains constant in the model. Then vehicles are scrapped from the vehicle parc to obtain a target total parc size. To identify the total number of scrapped cars the SMMT vehicle parc size projections are used and LGVs using a projected growth from the government's road traffic forecasts. Any new vehicles are then added and scrapped vehicles are subtracted from the previous year's parc to determine the vehicle parc for the following year.

The first step to determining the required EV chargepoint infrastructure to meet the projected EV demand is to identify the required energy demand projection. The NEVIS tool uses average daily vehicle mileage data and multiplies this by the driving efficiency for each vehicle type and charging efficiency is then added at 90%. This determines the charging energy requirement per vehicle per day. The model multiples this by the number of BEVs from the vehicle parc projections to determine the total energy requirement per day. Whilst Other EVs are assumed to use their ICE capabilities for 68.2% of their mileage and their remaining electric driving energy is then added to the total energy requirement.

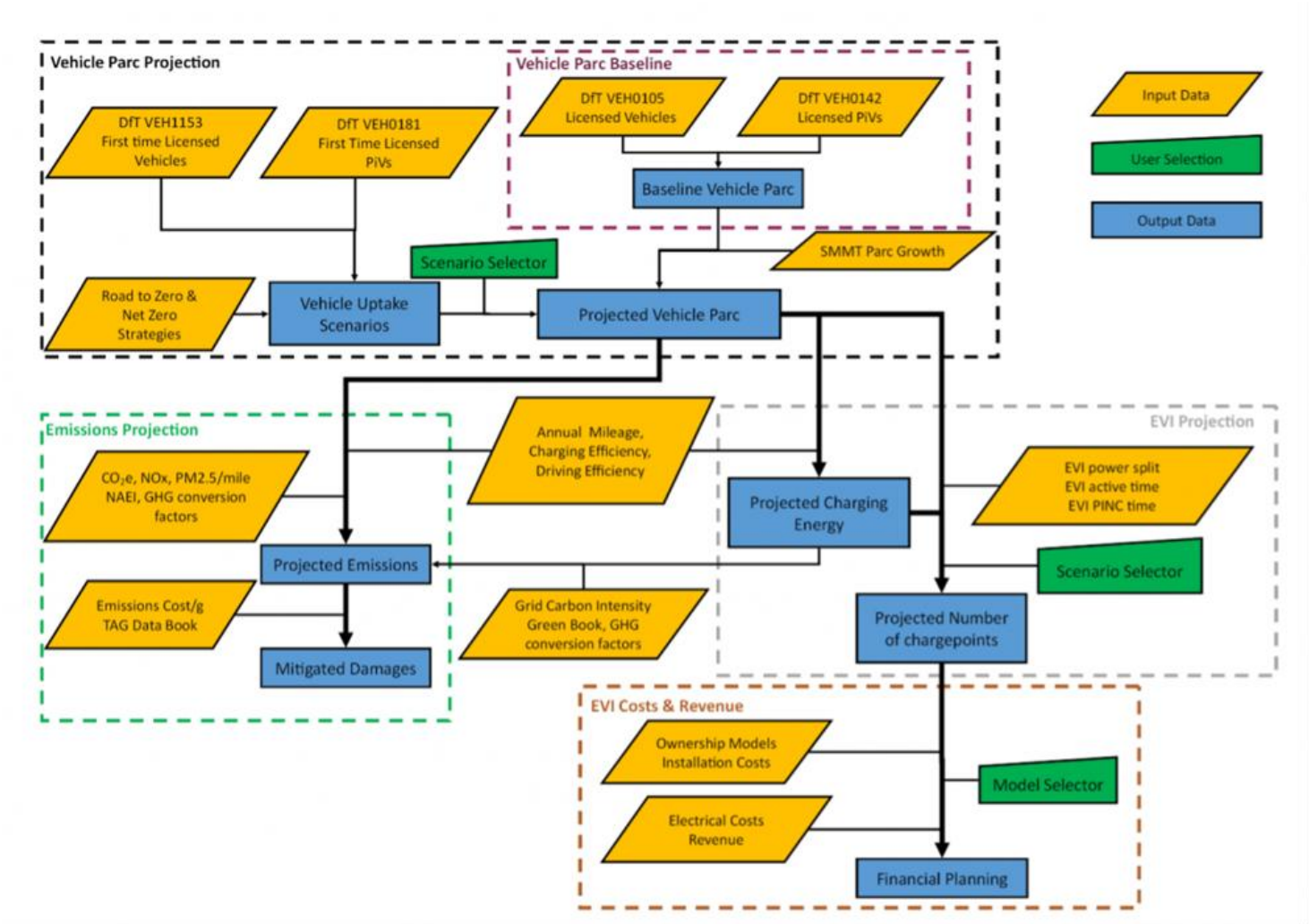
The model then accounts for the proportional amount of charging completed at home and on the public charging network. Roughly 68% of all households in the UK have the option for private off-street parking, so it is assumed where this is the case as it is most convenient and likely the cheapest option most will charge at home. Where local on/off-street parking ability is known this value is used and where it is unknown the national average is used.

It is important to account for the circumstances where these drivers may choose to use the public charging network. To account for this, the model assumes 6.31% of all charging demand from these drives is completed on the public charging network. Therefore, the total requirement for public EV chargepoint infrastructure is based on the total charging demand

of the vehicle parc minus the demand from those with off-street parking plus the 6.31% of the demand from those with off-street parking.

The EV chargepoint demand is then split between the EV chargepoint power ratings (standard, fast, rapid and ultra-rapid) according to the vehicle's capability (e.g. EV chargepoint power output <vehicle accepted max rate of charge).

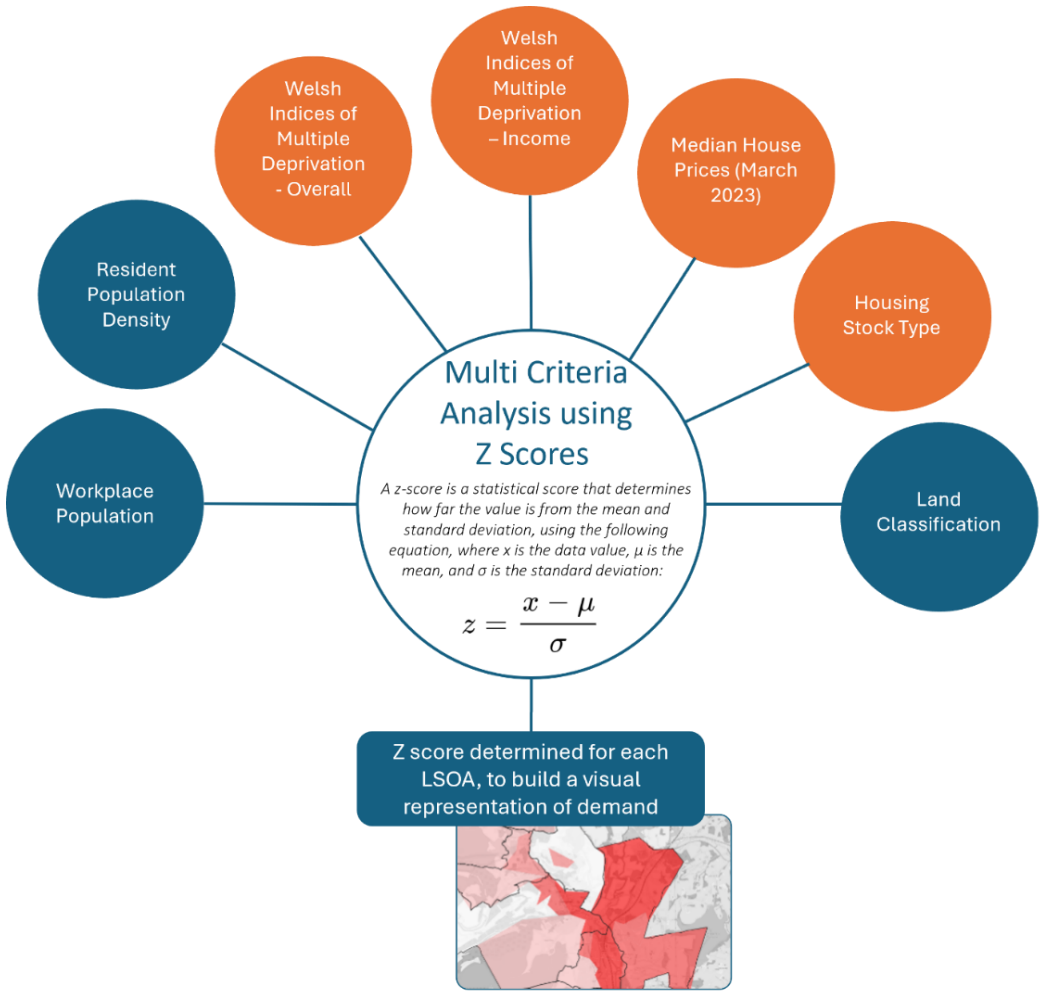
It is important to note that different local authorities have opted for different approaches to public charging with some choosing to focus on residential on-street charging and others choosing to focus on rapid charging solutions. Therefore, to allow for the different approaches, the three scenarios (blend, residential and hub) are available which determine the percentage energy demand that is met by EV chargepoint infrastructure of a given power output. A breakdown of the methodology including input data, user selection and output data can be found in the below figure



Appendix B: Demand Led Approach Methodology

To identify the potential EV demand and ensure an evenly distributed EV chargepoint network, the raw indicator data dependent upon the chargepoint speed being appraised for each LSOA has been converted into a z-score as part of a multi criteria analysis framework. This method of statical analysis standardises the normal distribution of the data within each criterion to ensure a fair comparison of each Lower Super Output Area (LSOA). Z Scores above the mean have positive standard scores, while those below the mean have negative standard scores.

A total Z Score is then extracted for each LSOA which is then used to visually categorise each LSOA in terms of their demand potential for EV chargepoints, to help ensure the network is geographically evenly distributed. The LSOA area is converted into 1km Hexcels for display in the output map. In addition, to Z Score analysis local insight and knowledge was incorporated into the location assessment.



Appendix C: Funding

Funding option	Description
Grant funding from Welsh Government / UK Government	For example: Ultra Low Emission Vehicle Transformation Fund (ULEVTF). This fund supports the development of EV charging infrastructure, including rapid and ultra-rapid charging stations across Wales
Home charging grants	• The **Electric vehicle chargepoint grant for renters and flat owners** provides up to 75% off the cost to buy and install a socket, up to a maximum of £350. • The **Electric vehicle chargepoint grant for households with on-street parking** provides up to 75% off the cost to buy and install a socket, up to a maximum of £350 and support for residents who are also installing a cross-pavement solution. • The **Electric vehicle chargepoint and infrastructure grants for landlords** provides 75% off the cost to buy and install a socket, up to a maximum of £350 per socket. Recipients can receive 200 grants per year for residential properties and a further 100 for commercial properties.
Workplace and business charging grants	• The **Workplace Charging Scheme** provides support for organisations towards the cost of installing up to 40 EV chargepoint sockets at their sites. The scheme covers up to 75% of the total costs of the purchase and installation of the EV chargepoints, capped at a maximum of £350 per socket and 40 sockets across all sites per applicant. The scheme is open to businesses, charities, public sector organisations and small accommodation businesses. • The **Workplace Charging Scheme for state-funded education institutions** provides support towards the costs of the purchase, installation and infrastructure of EV chargepoints. The scheme covered 75% off the cost to buy and install chargepoints up to a maximum of 2,500 per socket and 40 sockets across all sites including any applications made by the Workplace Charging Scheme. • The **Electric vehicle infrastructure grant for staff and fleets** provides small and medium-sized business with 75% of the cost of the work of installing EV chargepoints up to £15,000. Recipients can get up to £350 per chargepoint socket installed and up to £500 per parking space enabled with supporting infrastructure for a total of five grants.

Appendix D: Delivery Models

Delivery Models	Potential Control by Powys Council	Potential Risk to Powys Council	Advantages	Disadvantages
Own & Operate: (Contractor Supply and Install only) Paid for and owned by the public sector, with capital and maintenance costs recouped from usage charges. Operations are contracted to a CPO.	Highest	Highest	• Highest potential income for the local authority • Full control over locations and tariffs	• Requires significant grant funding to cover all costs • Highest risk, in terms of ongoing liabilities, maintenance costs, upgrades, and stranded assets
Joint Venture: A joint venture between a local authority and a partner business, sharing responsibilities, risks, and benefits, will establish a new entity to own and manage the chargepoint network.	High	High	• Innovative arrangement to fulfil complementary objectives • Higher levels of control over installations, tariffs and specification, compared to arms length arrangements	• Resource intensive to establish, manage, finance and monitor a new legal entity, and the delivery of the associated chargepoint network. • Exposure to investment and reputational risks
Public Private Commercial Partnership – External Operator: Capital costs are funded by the public sector, while the	High	Medium	• Reduced liability for operating costs • Retains high degree of control over chargepoint operations	• Requires significant public sector funding to cover all capital costs

Charge Point Operator (CPO) covers some or all ongoing expenses in return for a share of the revenue.				
Public Private Commercial Partnership – Concession: Capital costs are usually partially funded by the public sector, with the remaining costs covered by the Charge Point Operator (CPO). All operational costs and risks are transferred to the CPO.	Medium	Low	• CPO incentivised and responsible for maintenance • Reduced risk for public sector • Less public sector funding needed	• Reduced income share • To be commercially attractive, needs to be a relatively large number of sites so that CPO can balance risk across sites, and long-term contracts (e.g. 10-20 years
Land lease: All costs paid by CPO, which is granted a long-term lease/ license by the Local Authority, to allow the CPO to recover its costs.	Low	Low	• Lowest risk for the local authority • Rent paid to local authority by CPO provides some guaranteed income • CPO heavily incentivised to maintain chargepoints	• Many areas are currently commercially unviable • Lowest potential income for local authorities • Least control and inability to incorporate wider goals
TfW supply / install, LA operate: Paid for and owned by TfW, with capital and maintenance costs recouped from usage charges.	Medium	Low	• Reduced risk for public sector • Less public sector funding needed	• Reduced income share • Resource intensive to manage operations

Operations are carried out by LA.				