



Bronllys Well Being Park (CLT) Ltd

Transport Feasibility Study at Bronllys Hospital



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Bronllys Well Being Park (CLT) Ltd was established in 2016 as a Community Benefit Organisation dedicated to providing local people with opportunities to address local affordable housing need, improve their lifestyle and well-being through social and sporting activities, employment opportunities and economic and environmentally sustainable projects in the grounds of Bronllys Hospital.

For more information visit www.bronllyswellbeingpark.org

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i. Abstract

This feasibility study reviews and highlights how sustainable transport within and beyond Bronllys Hospital could enhance health and well-being for the local communities and beyond.

Supporting people to become and remain mobile in their community, enabling them to plan for their future, take meaningful action can reduce the incidence social isolation, life- limiting conditions promote local prosperity and is a key component of the Powys Health and Wellbeing Strategy.

The findings can support any considerations for the future development of community assets and resources for the benefit of the local community, our climate now and future generations for years to come.

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1. Executive Summary

It is widely recognised that urgency is required across the international community to tackle the climate crisis as emphasised at the COP 26 in Glasgow.

The emissions reductions required by 2050 under the Climate Change Act mean that energy will need to be supplied almost entirely carbon-free.

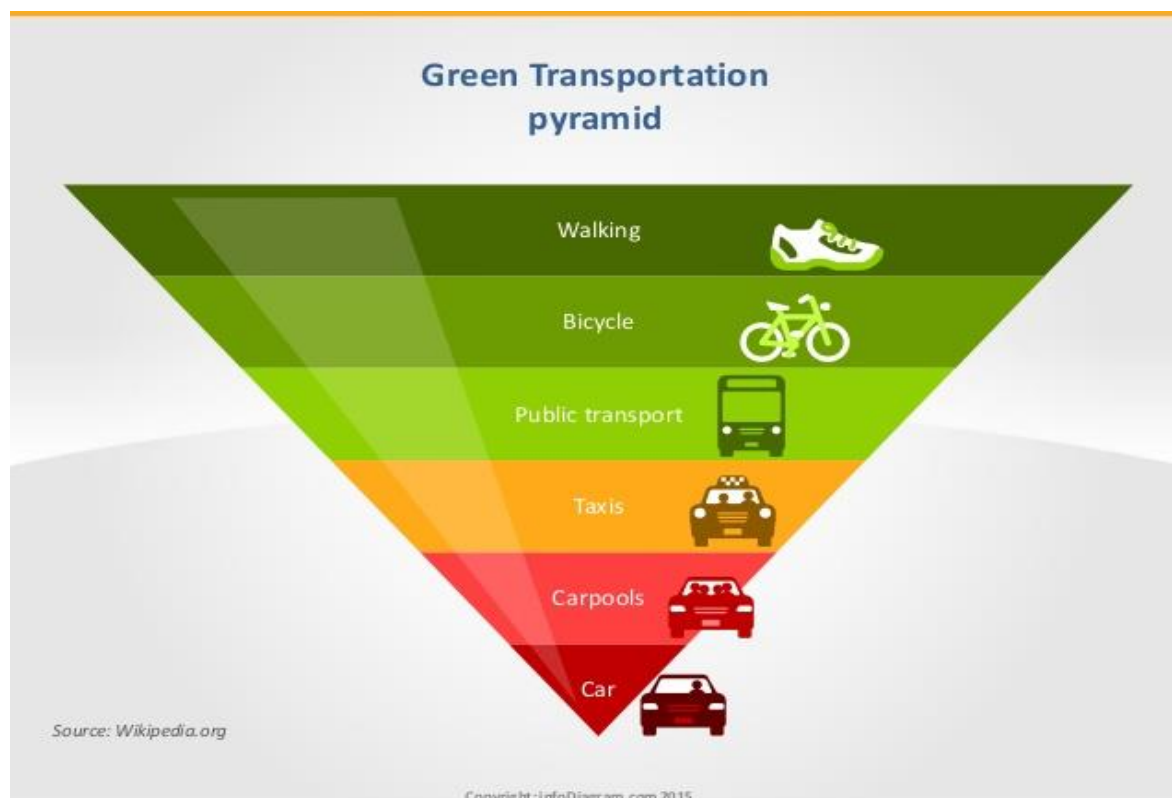
The Welsh Government (WG), in its Low Carbon Delivery plan from March 2019 (1) recognises that climate change is the globally defining challenge of our time. Climate change is a matter that transcends political and social boundaries, and it is often the most vulnerable in our communities who are impacted the most. Their plan highlights the need for involvement and collaboration across society and the role of communities in the low carbon transition. To endorse this commitment they have appointed a Climate Change Minister following the last election

The WG has set targets and provided additional support for renewable energy and decarbonising the public sector. (1) The Welsh Government invested in public transport, active travel and electric charging points in order to transition to a low carbon transport system, which is accessible to all.

The size, remoteness and dispersed pattern of settlements in Mid Wales challenge both the transport of goods and people.

Transport in Wales is dominated by the car. Most emissions emanate from the private car. The car is also one key barrier to more people using the less polluting and more sustainable modes: active travel (walking and cycling) and public transport.

Since the 1950s Wales has depreciated its public transport infrastructure and over the same period expanded its car-based infrastructure. Despite its many benefits, the car is contributing to problems such as poor air quality, congestion, and a significant proportion of CO₂ emissions (55% of Transport CO₂ emissions). A shift from an over reliance on the private car to more sustainable transport modes is recommended. This shift has a key role to play in emissions reduction in the near term.



The Growing Mid Wales partnership in their strategic document from Feb. 2019 sets it priorities for Action on Transport as follows:

Priority

Intervention

Transformational priorities

- Connectivity of the region addressing cross- border strategic routes and onward connectivity through the Highways England ‘Strategic Roads Network’

High priorities

- Strategic transport corridors: Road.
- Strategic transport corridors: Rail.
- Frictionless freight and logistics trade package.

Supporting priorities

Service Connectivity network package of measures.

- Active travel package of measures.
- Enabling rural connectivity.

The Low Carbon Transport for Powys scheme will encourage and facilitate residents, tourists, local commercial transport, and others to consider adoption of ultra- low emission vehicles. This will provide access to vital services at minimum cost. Rural residents are already paying a premium for energy costs and are facing transport challenges through public transport limitations and high cost diesel and petrol.

Changing Attitudes to Transport

There have never been so many pressing reasons why we need to rethink how we move and allocate street space to travel. From addressing air quality problems, decarbonisation of the transport sector, supporting the active travel agenda, decongesting and revitalising city centres and improve mobility in rural areas.

Reduction in investment in public transport has had a significant impact on the local community. People on low incomes cannot afford the costs of travel to places of employment; older people cannot easily access the services they need. Of necessity, car use is high, unavoidable and costly in rural areas. Villagers who can’t or no longer drive feel cut off from towns and other facilities.

Older People need affordable housing designed for their needs and which enables them to stay longer in their homes. For this they need effective transport to access services and, ideally the majority of those services should be available in the local community.

An envisioned Bronllys-based re-chargeable community mobility hub could complement and support the transport network for local villages, offering connectivity for treatment, shopping, employment and cultural events, cutting down on loneliness, social isolation and carbon emissions

This could be located next to the Hub and is intended to be the principle stopping point for rechargeable community bus services. Other stops would be provided around the site, (for example close to the Chapel and the Bron Home), bringing easy access from remote settlements into the

centre and other parts of Bronllys Community Hospital. This would complement and support the Bronllys-based re-chargeable community transport network for local villages, offering connectivity for treatment, shopping, employment and cultural events, cutting down on loneliness, social isolation and carbon emissions.

Public Transport between small settlements needs to be improved in order to reduce isolation and enhance access to employment and services. The site should be an integrated transport hub, enabling easy access to the region without recourse to cars. Such cars as there are should largely be part of a car club and electric – charged from an on-site turbine – or hydrogen. Developing a scheduled network sustained by volunteer drivers who are rewarded by Time Banking credits. Since the Mid-Wales portion of the national grid is over-loaded and cannot accept any further micro-generation, there is an unfolding project of the Black Mountains College to create an off-grid renewable energy installation in the local communities “...allowing Mid-Wales to put its abundant energy-producing resources ... to good use.”

The way we all commute, and travel is shaped by central government policies.

Internal combustion engine (ICE) vehicles will be phased over the next 40 years. From 2035 it will not be possible to sell new ICE cars in the UK and within 15-20 years most diesel and petrol cars will have been scrapped.

The number of zero emission electric cars on the roads of the UK is increasing rapidly, due to tax incentives and grants for the purchase of zero emission cars. There are higher taxes for high GHG (Greenhouse Gas Emissions) intensity vehicles. However, other than company car, the tax on internal combustion engines (ICE) is not significantly higher.

But in Wales, 40% of households do not have access to off street parking / charging.

For many, the only option for owning an electric vehicle is workplace / community / retail / commercial EV charging.

Retail for example: Lidl, Tesco, Morrisons etc. all rolling out EV charging. At the moment 7.4kW is free and rapid DC is £0/25/kWh but there is already a price war!

2. Summary of Recommendations

The Transport challenges of Bronllys Hospital site are replicated public bodies sites in the county of Powys:

- High demand for parking on sites
- Employees and visitors travel a short distance to the hospital.
- Potential for wider community and transport use
- Need to address the environmental and demographic needs of our communities

Understanding current transport demands and patterns of use will be essential to assess potential cost benefits. The case for Electric Vehicle Charging Points (EVCPs) provision on the Bronllys Hospital site is compelling.

The Health Board may consider incentivising the use of Electric Vehicles. Where an employer provides facilities for charging their employees' all-electric or plug-in hybrid vehicles at the workplace, this is currently treated as a taxable benefit in kind subject to income tax for employees and employer Class 1A National Insurance contributions.

The government announced in Autumn Budget 2017 that it would introduce an exemption to remove any income tax or National Insurance contributions liability for charging electric vehicles at work with effect from 6 April 2018. (2).

The following outlines some options for the Bronllys Hospital site as an initial assessment. For all these options more detailed appraisal is

2.1. Recommendations

Make the Hospital easier to access via walking and cycling

- pavement/cycle path from main road,
- provision of secure bike racks,
- covered bike storage,
- storage lockers and showers (so staff can cycle in all weathers and freshen up before going to office). Could include provision for charging electric bikes.
- E-bikes or electric scooters available on site for staff (though might be better from health perspective to walk).
- Electric on-site vehicles e.g. gator type atv-pickup for grounds maintenance and on site deliveries, as well as a move to all-electric tools/mowers/chain saws etc using 18V and 35V lithium battery systems (Makita, De Walt etc.) Good for their health to as no emission controls on small ICE.

Electric Vehicle Charge Points (EVCP)

- audit need of site to determine best locations and grid capacity issues.
- Users - e.g. staff or residents on site all day can use slow chargers (3.7 – 7.4 kW AC)
- Visitors staff/deliveries etc. will need faster (22 kW AC – 50 kW DC).
Plenty of scope for solar PV at the hospital site - and solar canopies over parking areas

Community Transport Hub

- Potential for a community transport hub at Bronllys Hospital to add value to existing services should be discussed with Powys Teaching Health Board and the Powys Community Transport Network. For example: Setting up a scheduled village linking volunteer driven time banking scheme (see 6.3) to get people to employment and appointments.
- There is space on the Hospital site which, in addition, could be used for a community vehicle base - storage, cleaning, secure parking etc.
- Could serve as a base for a social enterprise, for example: valeting service, car club.
- Essential to work in collaboration with existing local Community Transport Organisations

EV Car Clubs

- Car Clubs would provide a possibility for BWBP to support social entrepreneurship.
- Possibility for fundraising with Community Energy Wales. Their aim is to create 8-10 clubs in Wales and intend putting together a grant application at some stage. The Bronllys/Talgarth area could be one of the sites for an EV car club. It would help to support the installation of EVCPs in the region to support a club i.e. Brecon, Crickhowell, Hay, Builth.

For the purpose of establishing further the opportunities for EVCPs as an option for Bronllys Hospital in relation to:

- Staff travel
- Emergency Travel
- Non-Emergency patient transport
- Community Transport including
 - Dial -a-Ride
 - Taxi Card Schemes
 - Community and Voluntary Car Schemes
 - Community Buses (Section 22)
 - Group Hire Scheme (PAVO)

It is advisable to collaborate and establish working groups to discuss needs with all relevant parties involved.

Thirteen Community Transport Schemes currently operate in Powys:

Seven of the Community Car Schemes are run through the local Community Support agencies or Volunteer Bureaux and are managed by the management committees of those agencies.

The Schemes recruit volunteer drivers who use their own car to provide door-to-door transport. The Schemes are open to people who do not have reasonable access to other forms of transport. In Powys the priority for transport is for health appointments, but also includes journeys that meet every day needs.

The drivers are paid expenses to cover the mileage they incur up to 45p per mile. Users are asked to meet some or all of the costs, but additional funding is needed to meet the full costs of operating the service.

It has recently been announced that Charge up Wales are to set up Seven new shared Schemes in Wales following a lottery award of £500,000. Green Valleys CIC are supporting the Charge Up scheme to be based in Brecon and Crickhowell

Conclusion

- BWBP and stakeholders need to identify the requirements to decarbonise transport locally.
- Identify requirements for staff and visitors to the Bronllys site and wider establishments and communities through surveys.
- BWBP should link with local community transport organisations to explore use of a volunteer driven time bank scheme focussing on Bronllys Hospital and offering a village linking rechargeable transport.
- Explore setting up a village based volunteer driver time bank

- React to the recent PTHB staff surveys which indicated options for car sharing and community transport and look into options for these.
- Recommend provision of EVCP locations on all PTHB sites to help build an EVCP network.
- Increase opportunities for cycle shelters and E- Bike charging to support active travel
- Establish Links with an academic body to independently monitor and mentor the BWBP transport development
- Read this Feasibility Study in conjunction with the Next Ten Years proposal document which will ensure the reader/s are fully informed of community aspirations

3. Background to this Project

Bronllys Well Being Park (BWBP), since its establishment as a Community Land Trust and Community Benefit Society in 2016, has grown to a membership of nearly 600 members. The BWBP gained funding from the Arwain Leader programme conduct seven feasibility studies including this transport feasibility study. It examines the options for Bronllys and a based re-chargeable, low carbon community transport network in particular.

3.1. Study Objectives and Terms of Reference

These studies core objectives are to:

Examine the causes and effects of the current transport and energy system in Wales in relation to the climate crisis.

How it relates to tenure, place, demographics, incomes, wealth distribution and life chances, as well as the social and economic impacts.

Explore and propose workable solutions for low and zero carbon transport (big and small).

Raise awareness of the concerns and solutions (among practitioners, decision makers and the public).

Engage stakeholders (PTHB and PCC) and build a consensus for change.

Suggest examples for BWBP in line with aspirations and requests made by community members and expressed in the Next ten Years proposal document.

4. Policy Context

Any project proposals by BWBP and its partners must reflect a scale and breadth appropriate to the nature of the sector or thematic groups that is to be engaged with.

There must be a clear fit with Well-being of Future Generations (Wales) Act 2015 and Welsh Government's Prosperity for All. The scheme should offer a stable and coherent network of services fully integrated with other modes of public transport, which is reliable, affordable, easy to use and offers journey times that encourages modal shift from cars.

A coordinated approach is proposed to introduce electric vehicles and other innovative transport solutions in identifying how their introduction can provide optimal benefits socially and economically.

Community transport schemes should deliver the following outcomes:

Customer Experience – Users receive the highest possible standard of services whilst reducing the reliance on carbon.

Better Connectivity – Services delivered offer connectivity with other bus and transport services, frequency, reach and accessibility required to connect people with jobs, health, school and leisure opportunities.

Access for All – All passengers, regardless of their disability, have access to suitable vehicles and drivers provide a service that fits their needs.

Loneliness and Isolation – Services are planned to assist with improving social inclusion and tackling isolation.

Respond to Climate Emergency – Meet Wales’ low carbon goals by converting to a Green fleet.

Financial Sustainability –Reduce reliance on public sector investment.

4.1 Adding Value to Stakeholders

Building an EV network in Wales where investment through a project – based on need identified within communities - supplements the EV network being invested in by both the WG and PCC;

Community transport provision which is under increasing pressure from budget cuts and increasing demand for its services. Volunteer Bureau run schemes are actively interested exploring how EV’s offer them an additional ‘model’ for operation;

Low carbon ambitions (being evidenced now through Climate Emergency statements) are supported. If a project sets out a replicable and scalable model for widespread use of EV’s and widespread mileage reduction through for example: a model of car clubs.

4.2 Steps to Progress

1. Consulting with a wide variety of stakeholders, identify PTHB & PCC needs and opportunities for EV’s (Electric Vehicles) on Bronllys Hospital ground. Example: Car sharing
2. Setting up a Transport Steering Group consisting of PCC, PTHB, Community CIC’s, local Town council delegates. For example: Trydani, The Green Valleys, Open Newtown, Renew Wales, PAVO, CTA.
3. Seeking to complement further public charging sites set up under PCC’s and WG’s EVCPs low carbon policies.
4. Direct support to get electric vehicles transport into wider community services and help them introduce EV’s or operate additional EVs if they are already doing so. Example: link up with Dial-a-Ride services.
5. Utilising these chargers and EVs to make a difference to transport poverty in Powys – especially as extra resources for community transport, and in connecting to public transport and addressing ‘gaps. Covid-19 has added significant pressure to these services.
6. Co-Producing new services
Social prescribing, care visits, delivering prescriptions or shopping, moving items such as PPE or Meals on Wheels may benefit from electric travel. It is cheaper than running petrol or diesel vehicles and causes less air pollution.
7. Consider setting up additional social enterprises in connection with established EV charging point and transport.

For example:

- Setting up and running a Time Bank for supplying volunteers to community transport services
- Valeting Services for an existing fleet.
- Setting up and running a car club.



Source: <https://whatworkswellbeing.org/resources/building-community-wellbeing-a-theory-of-change/>

5. Transport Infrastructure in Powys (3)



<http://www.photo-transport.co.uk/buses/rural-south-wales/rural-south-wales.htm>

5.1 Overview

The nature of Powys' towns, which by national standard, are comparatively small, further illustrates its rural character.

The majority of the population of Powys is located in towns and large villages.

The largest town is Newtown, which has a population of 11,357, followed by Ystradgynlais, Welshpool and Llandrindod Wells, which have populations of 8,092, 6,664 and 5,309 respectively. Large villages in the plan typically have populations of between 200 and 600, whereas the Small Villages usually have populations of less than 300, with many being less than 100.

Historically, the larger settlements have acted as market towns serving their wider rural hinterlands. Today, in addition to the market function where it still exists, they are mainly local service centres where high schools, health services, local retail provision and employment opportunities are located. Residents also shop out of the county in larger centres such as Aberystwyth, Cardiff, Hereford, Shrewsbury and Swansea particularly for higher order comparison retailing.

5.1.1 Road

The transport network is important to Powys, influenced by its topography. The A470 is a strategic trunk road linking North and South Wales. It constitutes an important route through south and west Powys linking Brecon (BBNP), Builth Wells, Rhayader and Llanidloes.

The A483 links southwest Wales with Llanwrtyd Wells, Builth Wells, Llandrindod Wells, Newtown and Welshpool to Shrewsbury and beyond into the Midlands.

The east-west A44 links Aberystwyth, Rhayader and Llandrindod Wells into Herefordshire and the Midlands.

5.1.2 Bus

Whilst public bus services are available linking many of the settlements through Powys and the LDP area, including long-distance services to North and South Wales; frequency of services is limited and can be inconvenient. Dependency on private car ownership and usage therefore remains high.

5.1.3 Rail

Two main rail lines cross the County;

The Cambrian Line, running between Aberystwyth and Birmingham International linking Machynlleth, Newtown and Welshpool

The Heart of Wales Line between Shrewsbury and Swansea linking Llanwrtyd Wells, Builth Wells, Llandrindod Wells and Knighton plus a number of smaller settlements along the route, again providing important transport links in Powys.

The rural nature of this transport network and low-density population often means that capital investment/funding has low priority at a national level.

5.2 Support for Ultra Low Emission Vehicles (4)

Is it safer to drive through England than mid Wales in an electric car because of the lack of charging points, as an energy co-operative boss has said?

Neil Lewis, from TrydaNi, said there were not enough rapid electric car charging points, making it hard to travel from south to north Wales?

Rapid charging devices are those rated at 43kW or above, including 'ultra-rapid' chargers of more than 100kW DC. Fast charging devices are those rated at 7.4-22kW AC. Slow devices are typically 3.7kW AC or less.

The following is a list of rapid charging points in Wales according to data collected for zapmap July 2020 (5)

Notes: Charging devices not open to the public, i.e. private or domestic chargers, are excluded from the map.

A charging device may have more than one charging connector and be able to charge more than one vehicle at a time, therefore these figures do not reflect overall charging capability.

There 89 rapid chargers across the whole of Wales.

47 in South Wales as opposed to currently 7 in Mid- Wales.

Cardiff	12	Powys	1
Bridgend	10	Torfaen	1
Caerphilly	9	Merthyr	1
Newport	9	Rhondda Cynon Taf	0
Vale of Glamorgan	3	Bleanau Gwent	1
Swansea	4	Ceredigion	3

The report (5) also showed that while Scotland has 8.9 rapid charging points per 100,000 people, Wales only has 2.7 per 100,000.

It is not clear whether those rapid chargers include ultra-rapid chargers and whether they are needed and where exactly.

This is because every area in Wales has different requirements and charging capabilities. As the table below shows, also not all car brands are suitable to be charged via 150kW ultra-rapid chargers.

Vehicle Empty to full charging time

Model	Battery	Pod Point Confidence Range	3.7kW AC slow	7.4kW AC fast	22kW AC Fast	43-50kW DC rapid	150kW DC Ultra-rapid
Nissan Leaf (2018)	40kWh	143 miles	11hrs.	6 hrs.	6hrs.	1hr.	Can't charge on this kind of charger
Tesla Model S (2019)	75 kWh	238 miles	21hrs.	11hrs.	5hrs.	2hrs.	< 1hr
Mitsubishi Outlander PHEV (2018) Hybrid	13.kWh	28 miles	4hrs	4hrs	4hrs	40 mins	Can't charge on this kind of charger

Info pulled together from this Source: <https://pod-point.com/guides/vehicles>

Most of the first batch of 50kW DC chargers on the A5, A55 and M4 were funded/supported by EU money and a lot of on-street charging is funded by the Government via a number of grant schemes operated by the Office for Low Emission Vehicles (OLEV).

Most of the infrastructure in Scotland has been funded by the Scottish Government. They may be operated by private companies but that is under a contract. (6)

A number of fast electric vehicle charging points will be installed in several Powys County Council owned long stay car parks across the county following a successful bid for £100,000 funding from OLEV.

The funding was awarded under criteria which would enable charging points to be installed in areas, which could benefit residents who do not have a drive or garage, and park their electric vehicle on their street.

Chargers will also be open to the public or visitor use. In July 2020 the amount of total charging points in Powys was 69. The funding will increase the overall number of EVCPs in Powys to at least 85.

Two EVCPs in Machynlleth and Llanidloes were already installed and are fast chargers that can fully charge a vehicle in three to four hours. Most chargers can charge two vehicles at one time.

Charging points will next be installed in Welshpool, Newtown, Presteigne, Llandrindod Wells, Builth Wells and Brecon.

The full amount was awarded to support PCC in its journey towards future proofing its county and reducing carbon emissions.

The funding given will allow it to install charging points in nine areas within Powys.

It is meant to the start Phase I of its programme to build up a network of charging points across the county.

The nine car parks chosen for the Phase I installation were:

- High Street Car Park, Llandrindod Wells, LD1 6BG
- The Groe Car Park, Builth Wells, LD2 3BL
- Mount Street Car Park, Llanidloes, SY18 6BZ
- Maengwyn Street Car Park, Machynlleth, SY20 8DY
- Back Lane Car Park, Newtown, SY16 2NH
- Church Street Car Park, Welshpool, SY21 7DD
- Hereford Street Car Park, Presteigne, LD8 2AT
- The Watton Car Park, Brecon, LD3 7ED

6. Running a Community Car Club

Car clubs are short-term car rental services that allow members access to locally parked cars and pay by the minute, hour or day.

Car clubs offer an alternative model to private car ownership for individuals and businesses. Car clubs reduce the need for private parking and can help more people give up their cars while allowing for occasional car travel within their area.

There are a variety of car club models ranging from traditional 'back-to-base' returnable models to flexible one-way models, with dedicated parking bays and areas.

What are the benefits?

- **Sustainable travel behaviour.** Car clubs have the potential to reduce car ownership, inspiring a shift away from private car use to walking, cycling and public transport instead.
- **Benefits for businesses.** Car clubs can help businesses and charities access the cleanest vans and cars, save money and reduce emissions.
- **Transition to electric vehicles.** Many car clubs now operate electric or hybrid vehicles capable of operating with zero emissions.
- **Environmental and safety benefits.** By encouraging people to transition to cleaner vehicles with the highest safety rating, car clubs can improve air quality and reduce CO2 emissions



Unlock a car using your smartcard or smartphone

6.1 Reasons to Consider a Car Club in a Rural Area

1. Rural often means social isolation. No public transport at night.
2. Transport poverty, leading to poor health outcomes in rural areas
3. Less people mean smaller tax base and less income affecting public services & per capita funding
4. "Middle distance" getting to next market town, or from market towns to rural villages.
5. Getting to supermarkets for a big shop, likely to need a car
6. Seeing student children, parents, family at a distance- two-day trip to Cardiff, Bristol.

“When we travel now, we make sure we are planning what we need to do very carefully and we are going out much less. We got rid of one of the cars, because my wife was working from home and the car was just sitting on the drive.”

--Llanidloes resident coming out of lockdown restrictions, July 2020

“Car clubs encourage ‘shared mobility’. People who don’t own a car become more judicious and selective when choosing travel modes. They also perform ‘trip chaining’, which is a more efficient way to move.” --Co-Cars website

6.2 Affordable EV Models in 2020

6.2.1 Renault ZOE R110 ZE40



- Approximate miles: 160
- Cost: £24,320
- Rapid charging: Yes: up to 80% in one hour and 40 minutes
- Available now

6.2.2 Peugeot e- 208



- Approximate miles: 185
- Cost: £24,000
- Rapid charging: Yes: up to 80% in 30 minutes
- Available from: 2020

6.2.3 VW ID.3 Standard Range Concept



- Approximate miles: 185 (standard range model)
- Cost: £22,000
- Rapid charging: Yes: up to 80% in 45 minutes
- Available from: Summer 2020

6.2.4 Skoda CITIGOe IV



- Approximate miles: 135
- Cost: £15,000
- Rapid charging: Yes: up to 80% in an hour
- Available from: 2020

All examples in 6.2 were sourced from: <https://www.edfenergy.com/for-home/energywise/cheapest-electric-cars-to-buy>

6.3 Car Club: Recommendations

Car Clubs would provide a possibility for BWBP to support social entrepreneurship. Possibility for fundraising with Community Energy Wales. The aim to create 7 clubs in Wales with a grant application has succeeded. The Bronllys/Talgarth area could have been the site for an EV car club. It would help to support the installation of more provision. Brecon and Crickhowell are going to benefit in this round of funding.

6.4 Rechargeable Community Transport Fuelled by Time Banking Volunteers

A Community Mobility Hub could be the focus point for rechargeable community bus services plus shared bike and bike schemes. A bus service would cater for those who no longer drive, have given up on car ownership for health, ethical or cost concerns. Stops could be provided around the site, (for example close to the Chapel, NHS Campus and other facilities). It would bring easy access from remote settlements into the centre and other parts of Bronllys Community Hospital. It should complement and support the Bronllys-based facilities offering transport network for local villages, offering connectivity for treatment, shopping, employment and cultural events, cutting down on loneliness, social isolation and carbon emissions. It will require skilled and reliable drivers as a non-profit social enterprise one option of achieving this would be by rewarding drivers via time banking.

Time banking is a way of spending time helping someone out. For example, by mowing someone's lawn, or doing their shopping. (In this proposal it would include linking Bronllys Hospital into the circuit of the already existing village community transport) For every hour spent, the CT Volunteer will "earn" an hour in return. This can be spent on receiving an hour of someone else's time or, where available, things like meals out, theatre or cinema tickets. Another option for repayment could be learning or sharing a skill like cooking or playing a musical instrument.

No money will be exchanged. Vouchers may be used or local currencies like the Hay pound.

The Community Transport Time banking model doesn't replace paid services or duplicate work from other organisations. It is envisaged by BWBP to fill in gaps to create stronger communities. It could be a catalyst to improve on good neighbourliness and employability. It will also support the local economy by increasing connectivity. Time banking is proven to reduce social isolation, tackle loneliness, build skills and improve health and wellbeing.

PAVO are piloting a project on Time banking "Amser I ni: Time for us. <https://www.pavo.org.uk/help-for-organisations/amser-i-ni-time-for-us.html>

Recommendations on Community Transport for BWBP

- to make a community business proposal for a scheduled rechargeable Community Transport project centred on Bronllys Hospital.
- To conduct a survey of their surrounding villages for the health, social, employment environmental and social needs such a service would need to meet.
- To liaise with local Community Transport Organisations, PTHB, PCC, PAVO and local Councils in the commissioning of this service.

7. Providing Community Electric Vehicle Charge Points

The need to switch to cleaner transport is an important response to the climate emergency declarations.

Electric Vehicles (EVs) are cheaper to run, less polluting and sales are increasing. (7)

There is a need for more public charge points. Providing EV charge points at your facilities can:

- Encourage your community to switch to EVs
- Support local transport services who want to switch to EVs
- Benefit local residents unable to charge at home as more EVs are sold.

The need for charge points will increase and charge point providers can expect a revenue stream to help sustain their services to the community.

7.1 Bridges Centre – a Case Study by Gwent Energy CIC (7)

Bridges Community Centre is the heart of community groups in Monmouth CC.

They provide an impressive range of activities with health benefits for the most vulnerable members of society, as well as providing transport for those isolated with use of a community bus.

Gwent Energy CIC installed 10 kWh solar, along with four electric vehicle charge sockets: one 22 kW, two 7.2 kWh and one 3.6 kWh. This provides suitable charging for a range of different EVs.

Trustees are now looking to use the energy from their solar and EV charge point, to power an electric community transport scheme.

7.2 EV Chargers

In basic terms, there are three ways to charge an electric car: at home, at the workplace, or at a public charging point.

There are three main types of EV charging – rapid, fast, and slow. These represent the power outputs, and therefore charging speeds, available to charge an EV.

Different charge point power ratings

7.4 kW AC Fast: Cheap. Suitable for all buildings and appropriate for long-stay or overnight charging.

22 or 11 kW AC Fast: Requires a 3-phase power supply – non-domestic premises.

50+ kW DC and 43 kW AC rapid: Requires a dedicated power supply. Usually free-standing units, with multiple sockets

Which charger is suitable?

This depends on:

- available power supply,
- accessibility and location of the car park,
- estimated user demand,
- ownership,
- budget

If multiple charge sockets are required, sites can be set up with a shared payment interface. Where access to charging needs to be controlled, lockable switches or restricted swipe cards are available.

Gwent Energy CIC* for example, can remotely monitor and configure charge points using their back-office system, as well as easily transfer revenue to the appropriate account.

*Gwent Energy CIC is a not-for-profit organisation dedicated to delivering projects which reduce our carbon emissions, and help communities become self-sufficient.

Energy from solar PV systems can help power the EVCPs.

For example, Gwent Energy CIC can install a solar PV system to buildings, ensuring the power to the EV charge point is offset by the surplus renewable energy generated.

As an example, Open Newtown, a development trust and a not-for-profit company limited by guarantee, is planning to install fast chargers, those that take 2-4 hours to give an EV a full recharge.

They are doing this for the following reasons:

1. They are affordable; within their budget and local electricity grid capacity.
2. Fast chargers meet their identified community needs of:
 - EVCPs (Electric Vehicles Charging Points) that sit within each town's car club. This is about locating charge points (and cars) close to where people need them.
 - Providing destination chargers that enhance their town's appeal to visitors and contribute an income to the car clubs they seek to establish.

Open Newtown is also identifying and supporting the co-location of quicker (and more costly) rapid chargers in partnership with the new Wales-wide EVCP cooperative called TrydaNi. www.chargeplacewales.org.

6.2.5 Fast Charger:

AC- TYPE 2. FAST: THE COMMON DENOMINATOR

Schneider Smart wall box (8) – 7-22kw AC options (can be mounted back to back on one post). Link to Clenergy software, £2,300 per unit

EV Box is another manufacturer. Alfen Eve

All EV models will charge on Type 2, but not at the maximum output of the charger

For instance, this charger will charge the Zoe at 22 kWh, but the Leaf at slower speed, as they are made for DC charging



Source: Schneider Electric <https://www.youtube.com/watch?v=EFGyejNVhyl>

7.3 EVCP - Recommendations

Electric Vehicle Charge Points (EVCP)

- audit needed of site to determine best locations and grid capacity issues.
 - Identify PTHB user needs - e.g. staff on site all day can be slow chargers (3 -7kw)
 - visiting staff/deliveries etc will need faster (10 – 30Kw)
 - what is PCC transport strategy?
1. Consulting with a wide variety of stakeholders, identify PTHB & PCC needs and opportunities for EV's (Electric Vehicles) on Bronllys Hospital ground.
Example: Car sharing
 2. Setting up a Transport Steering Group consisting of PCC, PTHB, Community CIC's, local Town council delegates. For example: Trydani, The Green Valleys, Open Newtown, Renew Wales, PAVO, CTA.
 3. Seeking to complement further public charging sites set up under PCC's and WG's EVCPs (Electric Vehicle charging points) low carbon policies.
 4. Direct support to get electric vehicles transport into wider community services and help them introduce EV's or operate additional EVs if they are already doing so.
Example: link up with Dial-a-Ride services.
 5. Utilising these chargers and EVs to make a difference to transport poverty in Powys – especially as extra resources for community transport, and in connecting to public transport and addressing 'gaps. Covid-19 has added significant pressure to these services.

6. Co-Producing new services.

Social prescribing, care visits, delivering prescriptions or shopping, moving items such as PPE or Meals on Wheels may benefit from electric travel. It is cheaper than running petrol or diesel vehicles and causes less air pollution.

7. Consider setting up additional social enterprises in connection with established EV charging point and transport.

For example: Setting up and running a Time Bank for supplying volunteers to services. Valeting Services for an existing fleet. Setting up and running a car club.

8. Electric Minibus for Community Transport?

Both the LDV EV80 (now replaced by the Maxus eDeliver 9) and the Renault Master ZE are available as minibus conversions, in 2021 the Fiat E-Ducato will also be available in a minibus version. These are more expensive than the 3.5 to 6.0 tonne vans on which they are based, and those vans are typically two to three times the cost of diesel equivalent. In addition, they are weight restricted and cannot carry the same load of passengers. Their cost as measured in terms of £ per passenger kilometre can be very high.

Unless there is a pressing requirement for a minibus to operate in a zero-emission zone (ZEV), or full funding for an evaluation currently trial, it is hard to justify the switch to BEV minibuses but that is expected to change over the next two-three years.

The minibus marketplace

Kent County Council has acquired a [Renault Master ZE minibus](#) as a long term trial. It can carry two wheelchair users and their escorts.

Renault Master ZE minibus conversion in use a Kent County Council



Mellor Orion-E 16-seat electric minibus



Maxus E Deliver 9



SPECIFICATION OF ELECTRIC MINIBUS OPTIONS

	Maxus e deliver 9	Renault Master ZE	Mellor Orion E	Units
Battery Capacity	88	33	72	kWh
Real-World Range	150	75	100	Miles
Fast Charge	50	7.4	22	kW
Fast Charge time	1.5	6	3.5	Hours
Maximum speed	?	72	56	Miles per hour
Energy Cost	£0.04 ?	£0.04	£0.06	£/mile

The estimated cost of electricity per mile is based on an overnight charge costing no more than £0.08/kWh. It is a simple estimate based on the full battery capacity and the company's estimated real-world range for the vehicle.

It does not take account of the need to leave a residue 10% charge in the battery (which the battery management system should ensure) or energy loss in the charging process (AC to DC) which can be as high as 15% with some charging systems but is more typically about 8%.

Typically, large diesel minibuses operating in urban traffic range from 8 to 14 miles per gallon (mpg) depending on weight, route topology, and utilization of parasitic devices like a wheelchair lift. They will be costing from £0.36 to £0.60 pence per mile for the fuel alone. Vehicles operated in rural areas can be significantly more energy efficient and cost less per mile.

In all cases a fleet of BEVs should result in a significant energy (fuel) cost saving in the range £0.54 to £0.32 per mile. There will also be some savings from reduced service, maintenance and repair (SMR) costs with some users of electric vehicle fleets reporting a 40% reduction and one electric RCV supplier suggesting a reduction of 60%, but this is hard to verify when there is very limited operational experience in Europe of this type of vehicle. Unfortunately, the limited operating range of these vehicles makes it hard for their energy saving to offset the significantly higher purchase (or lease) costs.

In terms of greenhouse gas (GHG) emissions the expectation is that a 60-70% reduction can be achieved in Year 1 (2020) if charged from the UK Grid but that reduction will increase year-on-year until 2030 when it will be about 90%. To achieve net zero will require on-site or private-wire renewable generation.

8.1 Electric Minibus - Recommendations

The government plug-in grant discount for electric vans is worth 20% of the asking price, up to a total saving of £8,000.

The discount applies to light commercial vehicles with a plug, including both hybrid and full-electric vans as long as they meet a number of rules, including having official CO₂ emissions of no more than 75g/m (fully electric vehicles emit 0g/km CO₂).

Other rules cover minimum top speed (50mph), minimum electric driving range (60 miles for a pure electric van, 10 miles for a hybrid), and minimum warranty length (three years / 60,000 for the base vehicle but with additional requirements for the batteries).

The van must also have been built or converted to electric power prior to first registration, so aftermarket conversions do not qualify for the grant.

While progress in the large and medium electric van sectors has been slow so far, in 2020 it's set to start moving much faster.

Comparison of official electric van driving range:

Van name	Van type / size	Official driving range
<u>Renault Zoe Van (2020)</u>	Car-derived van	245 miles WLTP
<u>Renault Kangoo ZE 33</u>	Small van	143 miles WLTP
<u>Nissan e-NV200 40kWh</u>	Small van	124 miles WLTP
<u>Maxus e Deliver 3 (2020)</u>	Small van	Up to 150 miles WLTP (depending on van and battery size)
VW e-Caddy (cancelled for UK)	Small van	160 miles NEDC
Citroen e-Berlingo (2021)	Small van	To be confirmed
Peugeot e-Partner (2021)	Small van	To be confirmed
Toyota Proace City electric (2021)	Small van	To be confirmed
Vauxhall Combo-e (2021)	Small van	To be confirmed
<u>Mercedes eVito (2020)</u>	Medium van	92 miles WLTP
<u>VW eTransporter (2020)</u>	Medium van	82 miles WLTP
<u>Vauxhall Vivaro-e electric (2020)</u>	Medium van	143-205 miles WLTP (depending on van and battery size)
<u>Citroen Dispatch electric (2020)</u>	Medium van	148-211 miles WLTP (depending on van and battery size)
<u>Peugeot e-Expert (2020)</u>	Medium van	148-211 miles WLTP (depending on van and battery size)
Toyota Proace electric (2020)	Medium van	TBC

Van name	Van type / size	Official driving range
Sokon / DFSK EC35 (2020)	Medium van	138 miles
<u>Morris Commercial JE (2020)</u>	Medium van	200 miles (untested claim)
<u>VW ID Buzz Cargo (2022)</u>	Medium van	To be confirmed
<u>Renault Master ZE</u>	Large van	124 miles WLTP
<u>LDV EV80</u>	Large van	127 miles NEDC
<u>Mercedes eSprinter (2020)</u>	Large van	96 miles WLTP
<u>VW e-Crafter (2021)</u>	Large van	68-71 miles WLTP
<u>MAN eTGE (2021)</u>	Large van	68-71 miles WLTP
<u>Ford Transit electric (2021)</u>	Large van	To be confirmed
Iveco Daily Electric	Large van	Varies with number of battery packs
<u>Citroen e-Relay (2021)</u>	Large van	99-140 miles
<u>Peugeot e-Boxer (2021)</u>	Large van	99-140 miles
<u>Fiat E-Ducato (2020)</u>	Large van	78-148 miles WLTP (depending on van and battery size)
Maxus e Deliver 9 (2021)	Large van	To be confirmed

9. Appendix U: Driving and Accelerating the Adoption of Electric Vehicles in the UK (9)

In 2018, transport accounted for 28% of all greenhouse gas (GHG) emissions in the UK; more than any other sector on its own. The large-scale adoption of EVs is therefore a key pillar of the government's efforts to create a carbon neutral economy by 2050 and the government's consultation proposes for all new cars and vans to be zero emission by 2035 or earlier.

There are five intermediate objectives that need to be met along the journey to EV adoption. Each of these objectives corresponds to a cluster of important barriers and motivators which influence EV adoption. These barriers are well documented in the research literature. They are:

❖ **Awareness & knowledge:** An important initial step is to ensure consumers and fleets have adequate awareness and knowledge of EVs; this includes how the technology works and what that means for functionality, how and where to charge, what models are available, where to find them, what the costs are, and where to find more information.

❖ **Financial factors:** Financial factors have a substantial impact on EV adoption; these include purchase price, running costs (and Total Cost of Ownership, TCO), the availability of financial incentives, and vehicle depreciation. There are also important cognitive dimensions to cost perception, including our tendency to focus on the high upfront costs of EVs, and to discount the benefits of lower running costs.

❖ **Charging infrastructure:** Availability of and access to charging infrastructure is a critical barrier to adoption. Clearly, for consumers to adopt an EV they need to be able to charge it. Evidence suggests that it is most important to have 1) access to charging at or very near to 4 home, followed by; 2) access to charging at work, and then lastly; 3) availability of nationwide public charging infrastructure to enable long journeys. Both actual and perceived charging availability are key to EV adoption, noting that consumers may over-weight the importance of on-the-go charging (as we are accustomed to refuelling in this way), despite being likely to complete the majority of charging at home.

❖ **Vehicle attributes:** 'Range anxiety', long charging times, long-term battery performance, and other concerns related to novelty and inexperience with EVs and their characteristics are among the main barriers to uptake. The limited range of battery electric vehicles (BEVs), in particular, is one of the most commonly raised concerns amongst prospective buyers.

❖ **Consumer attitudes:** The development of positive attitudes towards EVs is an important component which can drive purchasing behaviour. This includes symbolic attitudes - those which relate to the symbolic meaning and value of a vehicle; affective attitudes – those which relate to the emotions and feelings evoked by owning and using a vehicle; and instrumental attitudes – those which relate to the general practical or functional attributes of a vehicle.

10. Appendix V: Staff Travel Survey - PTHB

In 2019 The Health Board conducted a survey amongst PTHB staff in Hospitals across Powys to identify travel to work behaviour. 394 people responded in total.

10.1 Findings

Distance to work:

Out of 394 people, 102 work at Bronllys Hospital. (25.89%)

144 people out of 394 (36.55%) travel 5-15miles to work

140 people (35,53 %) travel 15 miles or more.

31 people are walking to work

Frequency of travel:

Out of 394 people, the majority 130 people (33 %) travel to work on a daily basis.

116 travel at least once a week.

Modes of travel:

A majority of people travel to work by car (342 or 86.80 %)

and are aware of public transport options (264 or 67.1%)

yet would not consider public transport as an alternative option of travel to work,

even if there were good links to the site (244 or 61.93%)

150 people (38%) would consider public transport as an option if there were good links on the site.

Distance from home causes most people not being able to consider non-motorized travel to work.

Car share:

253 out of 394 people do not have a second mode of transport.

27 people use car share infrequently as an option to get to work.

Out of 394 people 263 stated that they would not use a car share option regularly even if an efficient, organization-led car share service was established.

131 said they would.

Travel and Stress:

Out of 391 people 323 stated to not feel stressed travelling to work.

68 people stated it does cause them stress

Out of 194 people, 145 believe that the PTHB cannot introduce measures to help reduce stress, 49 people answered the PTHB could introduce measures to help reduce stress.

Parking:

Out of 394 people 251 stated that parking is an issue. 136 people answered it is not an issue 7 people answered they do not drive therefor it is not an issue.

Out of 331 people 139 suggest that designated parking spaces for staff, general public, disabled parking would help reduce the parking issues.

73 suggest barriers system to prevent the general public using the car park.

Working from home:

Out of 394 people 135 believe that frequent working from home could be possible in their position whereas 187 state it is not possible in their position

72 people say it would be possible with extra provisions.

Out of 388 people 152 believe that the facilities to work from home are not in place should they consider to do so 145 think they are.

Out of 394 people, 243 answered that consolidating their working week would be something they would like to do if it was possible. 151 answered no to that question.

Out of 394 people 130 answered that hot desking* is an option at their place of work,

133 answered no, 58 answered yes but that there wasn't always a desk available to them, 73 answered they didn't know about this option being available.

*Hot desking is an office organization system which involves multiple workers using a single physical work station or surface during different time periods.

10.2 Summary

It appears that the car is the most convenient option for most of the staff who have to travel to work in it, even though there are car parking issues to be considered on arrival.

Types of flexible working seem to be an option for many such as:

Job sharing, Working from Home, Part-time work, compressed hours, Flexitime, annualised hours, staggered hours. The employee has different start, finish and break times from other workers.

- PTHB staff surveys indicates options for car sharing and community transport. Look into potential for these.
- Find out how BWBP & PTHB can add value to existing services and fulfil legal obligations towards sustainable low carbon or zero carbon solutions.

11. Appendix W: Transport in Wales: Brief Overview (3)

The National Assembly for Wales took responsibility for devolved powers on 1 July 1999, as part of this process, transport was transferred from the Parliament of the United Kingdom to the National Assembly for Wales and with it, responsibility for the trunk road network, including motorways. The responsibility for the management of highways in Wales is split between the Welsh Government and local highway agencies. The Welsh Government is responsible for trunk roads and motorways, whilst the 22 local authorities are responsible for all other highways. Today it is the UK Government that has responsibility for maintaining and investing in the rail network in Wales – not Welsh Government (apart from the core valley lines, part of the south Wales Metro, which transferred to WG earlier in 2020).



The A40 is an east to west route in mid Wales from Raglan (Newport–Worcester Trunk Road) and Llandoverly. It is mostly single carriageway standard apart from the Brecon Bypass, which is dual carriageway.

The A470 is a north–south route running from Llandudno Junction and the A55 in the north to Cardiff on the south coast. It is generally a single-carriageway road north of Merthyr Tydfil and dual carriageway south of Merthyr Tydfil. Source: Wikipedia/Trunk Roads in Wales.

11.1 Decarbonising Transport in Wales (10)

Decarbonising transport will make a huge contribution to Wales’ success in meeting its projected energy demands entirely from renewable sources by 2035. Wales is required by its own Environment (Wales) Act 2016 to reduce carbon emissions by at least 80% by 2050. The 2008 Climate Change Strategy Wales set out how it intended to cut transport emissions. But that strategy has failed to achieve any significant reduction – emissions from transport are flat lining.

Wales needs a radical new approach to transport if it is to achieve its target.

Importantly, any relevant changes needed, are to be achieved in accordance with another key Welsh law, the Future Generations (Wales) Act 2015. The Act requires public bodies, when taking action to decarbonise, to use interventions that also help to achieve the national goals set out in the Act.

Actions that reduce emissions must take into consideration the impact on areas such as health, the economy, and equalities.

Wales is at risk failing to meet its own targets on carbon emissions unless it changes its over-reliance on the car. More than in any other region or nation in the UK, the car dominates transport in Wales.

Bus services in Wales are in serious long-term decline. Rail serves only a very small part of the country and, whilst growing, has less than a fifth of the passenger journeys of buses. Despite the Active Travel (Wales) Act 2013, walking and cycling levels are generally static or declining. The sale of new petrol and diesel cars is planned to be banned from 2035; there is a clear need for managed change in Wales' transport system.

11.2 Wales Transport Strategy: (11)

In their "One Wales" Transport Strategy from 1 April 2008 the Welsh Government Assembly set out 5 key areas where they need to make substantial progress:

- reducing greenhouse gas emissions and other environmental impacts,
- improving public transport and better integration between the different types,
- improving links and access between key settlements and sites,
- enhancing international connectivity
- increasing safety and security

The strategy was complemented with guidelines called the Welsh Transport Appraisal guidance (WelTAG), (12) last updated in 2017. This guidance must be used in the development and appraisal of transport proposals promoted or funded by Welsh Government. There are two primary purposes to WelTAG:

- to enable the most beneficial scheme to be identified
- to allow the comparison of schemes on a like-for-like basis

When using WelTAG it is essential to comply with the duties set out in the Well-being of Future Generations (Wales) Act 2015.

The Well-being of Future Generations Act requires a new way of thinking about how our public services are delivered in Wales. Public Bodies must work in a way that improves the economic, social, environmental, and cultural well-being of Wales.

Using this framework will help projects to be developed in an integrated and collaborative way, based on what people need and supporting the well-being of communities today as well as in the long-term.

Impact assessments (both statutory and non-statutory) must be carried out when making a transport case to assess the social, cultural, environmental and economic impacts of each option and should consider the contribution of the option to the well-being goals set out in the Act.

When introducing innovative transport solutions, ideally there should be no conflict between protecting our environment and improving our economic performance.

It has been widely accepted that a more mobile lifestyle increases the demand on our transport system, and this demand is currently being met largely by the increased use of cars. Transport needs to play its part in reducing CO2 emissions and reducing car dependency is a key part of meeting the Welsh Government targets. This will call for better quality and more reliable public transport. Wales

geographical features, Mountains, Valleys and a long coastline, presents its own unique challenges in aiming to provide swift road and rail links.

11.3 The WG Vision and Principles for Rural Development Schemes (13)

Vision

Businesses, Organisations and Communities should be working together to increase their resilience by tackling issues such as;

- Rural poverty
- Financial sustainability
- Climate change and the Environment
- In-work poverty and social exclusion

Principles

- Build capacity and confidence
- Act as a catalyst for further intervention
- Developed shared visions through diverse approaches and practices Build on the LEADER principles of innovation and pilot action
- Use businesses, organisations, people and our natural resources effectively to stimulate community, social, environmental and economic wellbeing for future generations
- Develop a collaborative approach to promote both vertical and horizontal integration in the wider rural economy

11.4 Eligibility for Funding Support of Transport Schemes

The Welsh Government, under its Rural Development Plan 2014-2020, set out the criteria for a co-operation and supply chain development (CSCDS) scheme as follows.

The last application round 7 closed on the 29th of June 2020.

The aim of this Expression of Interest (EOI) round was to provide support for local community transport schemes.

There must be a clear fit with Well-being of Future Generations (Wales) Act 2015 and Welsh Government's Prosperity for All. The scheme should offer a stable and coherent network of services fully integrated with other modes of public transport, which is reliable, affordable, easy to use and offers journey times that encourages modal shift from cars.

Community transport schemes should deliver the following outcomes:

Customer Experience – Users receive the highest possible standard of services.

Better Connectivity – Services delivered offer connectivity with other bus and transport services, frequency, reach and accessibility required to connect people with jobs, health, school and leisure opportunities.

Access for All – All passengers, regardless of their disability, have access to suitable vehicles and drivers provide a service that fits their needs.

Loneliness and Isolation – Services are planned to assist with improving social inclusion and tackling isolation.

Respond to Climate Emergency – Meet Wales’ low carbon goals by converting to a Green fleet.

Financial Sustainability –Reduce reliance on public sector investment.

Project proposals must reflect a scale and breadth appropriate to the nature of the sector or thematic groups that is to be engaged with.

11.5 Allocated Funding to Welsh Trainlines 2020

June 2020: In a letter to the UK Transport Secretary, Ken Stakes, the Welsh Minister for Economy, Transport and North Wales, set out a strong argument to build four new railway stations across Wales. The letter calls on the UK Transport Secretary to invest in the Wales and Borders rail network through the UK government’s ‘Restoring Your Railways’ fund, to improve rail connectivity and to ensure a speedy Wales’ post-COVID-19 recovery.

A report undertaken by Transport for Wales (TfW) for the Welsh Transport Minister identified four locations for new stations. The developments, which would be paid for under the New Stations Fund 3, would be ready by early 2024.

All of equal priority, the stations would be:

- Deeside Parkway, on the Borderlands Line in North Wales
- Carno, on the Cambrian Mainline in Mid-Wales
- St Clears on the Great Western Mainline in West Wales
- Ely Mill on the City Line in Cardiff, in South Wales

Five major transport schemes across Rhondda Cynon Taf have been awarded funding via the Welsh Government’s Local Transport Fund. The Welsh Government announced allocated rail and combined transport funding on the 2nd of July 2020.

The main improvements will include:

Upper Boat Park & Ride Study

It has been confirmed that £50k has been awarded to this scheme following a phase 1 WelTAG study in 2019/20 to look at the Park & Ride strategy in the Treforest/Nantgarw area.

The study determined that a major Park & Ride facility at Upper Boat would help to take traffic off the highly congested A470 corridor.

It is hoped such a development would encourage people to use the train as opposed to driving.

There is potential to develop a detailed design in 2021/22 for a new station built at Upper Boat served directly off the A473 Church Village Bypass, and the construction of a major rail-based Park & Ride site.

New Treforest Station

Additionally, £270,000 of funding has been agreed to conclude the WelTAG work on the new Treforest station.

This funding was awarded in 2019/20 from the Local Transport Fund.

Transport for Wales rail services are undertaking a Stage C design for a new station to the south of the current station in close proximity to the new DWP offices.



Source:<https://foursquare.com/v/treforest-estate-railway-station-tre/4c59981b04f9be9a9da9ef60/photos/>

© Roger Nash, Balding, Caerphilly 01/12/2018

Cardiff North-West Rail Line

This scheme has been awarded £565k to enable the further development of proposals for the new rail line into Rhondda Cynon Taf to help to provide transport options for residents facing congestion by using the A4119.

Aberdare - Hirwaun Rail Line Extension

It has been confirmed that £100k has been awarded to progress this scheme.

During 2019/20, the council secured funding to undertake a WelTAG 1 study on options to extend public transport from Aberdare Station to Hirwaun using the rail corridor.

This work is being finalised and will provide a shortlist of options, which will be developed in more detail under the WelTAG 2 study to arrive at a preferred option, and business case to progress detailed design.

The scheme includes consideration of new stations at Trecynon, Hirwaun and at Tower strategic development site.



Aberdare Railway Station 21/08/2017 © Copyright [Roger Cornfoot](#) and licensed for [reuse](#) under this [Creative Commons Licence](#).

Porth Transport Hub

Finally, £950k of partnership funding between the Welsh Government and the Cardiff Capital Region City Deal has been awarded for the Metro + Phase 1 project, which will deliver a new interchange between bus and rail services at Porth, creating a new hub for buses.

The wider scheme will involve a further phase of Park & Ride provision, together with improvements to walking and cycling routes to the station, electric vehicle charging points for taxis, private cars and potentially for buses.

Detailed design works of the interchange building is currently ongoing, together with the progression of the arrangements for bus access, including seven bays and a layover area.

The former Barclays bank and the former Alec Jones Day Centre buildings demolished and cleared, while demolition will shortly commence on the former surgery building.

Four stations in Wales received funding to improve accessibility:

- Grangetown
- Neath
- Pontypool and New Inn
- Llantwit Major

11.6 Allocation of Other Transport Funding 2020-2021: (14)

Ken Skates, Minister for Economy and Transport in North Wales allocated £30,780 million (15) in transport grants to local authorities across Wales for schemes that support:

- Support economic priorities for jobs and growth
- Reduce economic inactivity by delivering safe and affordable access to education, key services and employment, particularly for those living in disadvantaged or rural communities
- Connect communities

- Encourage active and sustainable travel
- Improve public transport reliability and reduce journey times.

Wales' 22 local authorities were invited to submit proposals to the [Welsh government](#)'s Local Transport Grant funding to deliver projects with those aims listed above.

Powys received funding as follows:

Powys Local Transport Network Fund (16)	
Passenger Infrastructure Enhancements – Machynlleth Rail / Bus Interchange	£600,000
Powys funding for Local Sustainable Transport Covid Response (17)	£600,000
1. Reallocation of road space in/to High Streets	
2. Social distancing to and from schools	
3. Public Transport corridors – Creation of safe wide cycle lanes along major bus routes into towns	
4. Establish Play Streets	
5. Provision of E-bikes for key workers	
6. Social distancing measures at popular destinations/attractions	
Active Travel Fund, Safe Routes in Communities and Road Safety Grants (18)	
Active Travel Fund	
Newtown Bridge (the 3rd crossing)	£1,000,000
Newtown - Llanidloes Road	£ 200,000
Llandrindod Wells – Spa Road East to Cefnlllys Lane	£ 180,000
Core Allocation	£ 228,000
Safe Routes in Communities	
Llanelwedd School route, phase 1	£ 50,000
Road Safety Capital	
A4215 Libanus – Defynnnon Class 1 Road	£ 20,000
Road Safety Revenue	£ 64.468

12. Appendix X: Funding for Community Transport in Wales



Connecting Communities in Wales

Connecting Communities in Wales has received funding through the Welsh Government **Rural Communities Rural Development Programme 2014-2020**, which is funded by the **European Agricultural Fund for Rural Development and the Welsh Government**.

12.1 North Wales

Over £100,000 secured with O Ddrws i Ddrws in Nefyn, Gwynedd to assist with core costs and to develop their services to address social isolation and loneliness, as well as enhance their existing community transport scheme.

£150,000 secured with Community and Voluntary Services Conwy, to establish a Village Car / Car y Llan scheme linked to two GP surgeries in Betws-y-Coed and Cerrigydrudion, to assist with prescription delivery and assisting people to access health and wellbeing appointments.

£10,000 secured with community group Ffrindiau Cerrig Friends to run activities and establish a volunteer car driver scheme in Cerrigydrudion.

£25,000 secured with South Denbighshire Community Partnership for a food van to add to their fleet of vehicles, to help deliver community meals / develop their meals on wheels service.

£13,000 secured with Welsh Border Community Transport in Flintshire for another vehicle to add to their existing community transport scheme and improve capacity.

£45,000 secured with the Gwelfor Centre on Anglesey for a variety of activities, with transport costs to and from the centre included (the Centre has a long-established relationship with Mon Community Transport and supports them rather than developing a separate transport scheme).

£8,200 secured with Harlech Community Council to run a summer Harlech Hoppa service connecting the upper and lower parts of the town.

£10,000 secured with Flintshire Centre for Independent Living to access transport to help people with disabilities attend activities and meetings.

£10,000 secured with Grandma's Attic in Blaenau Ffestiniog, Gwynedd, to test demand for a community minibus scheme.

£10,000 secured with Benllech and District Good Turn Scheme, Anglesey, to contribute to ongoing running costs and development of their volunteer car driver scheme.

Worked with Partneriaeth Ogwen on a £490,000 proposal for a Dyffryn Gwyrdd / Green Valley project to tackle rural poverty, of which transport poverty is a key element. The project includes an electric vehicle and coordinator.

Partnership working in North and South Gwynedd to start identifying and considering how to address some of the transport gaps there.

Involvement in community engagement activities to gain understanding of some local transport needs e.g. Plas Madoc in Wrexham and Severn Wye Story Studios in other areas in North Wales.

Promotion of electric vehicles whenever funding proposals are being developed – had some input into Menter Mon’s proposal around EV pilot in Gwynedd, and it has been good to see community groups having the opportunity to test out an EV car club / community car initiative to identify learning.

12.2 South Wales

£2,300 for a Bank Bus project which will support people to travel from Hay to Brecon in order to access over the counter banking facilities and other services which are no longer available in their local community

£199,000 for the Collaborative Communities project which will provide a dedicated community transport service for community groups in Carmarthenshire & Ceredigion and provide support to community transport operators across Dyfed to develop their own community group transport services.

£81,000 for the Brechfa Electric Vehicle project which will pilot a new and innovative approach to addressing transport poverty for individuals and groups in the Brechfa wind turbine area, north of Carmarthen. The electric, fully accessible, multi-purpose vehicle (MPV) will be available as a community car club, while also being used as a community car scheme where volunteer drivers provide bespoke journeys to essential services and social opportunities on behalf of local people.

£98,000 for the Our Opportunity to Travel project which will deliver community group transport for a range of groups and organisations in the Ammanford area while also raising awareness of project usage options for other groups and societies who have limited access to affordable and accessible group transport.

£10,000 for the Linking Up project which will support residents of Birchgrove, Glais and Lon Las to access essential services and opportunities in Skewen and Neath following the withdrawal of a local public bus service route.

£50,000 for the Valleys to Work project which will deliver a dedicated, door to door minibus transport service, to enable individuals seeking work to access employment sites. The project will support people who do not have access to a car and are unable to access public transport to get to work, improving individual circumstances and contributing to the local economy.

£10,000 for the Forge Fach Friends Luncheon Club project which will see local organisations, the CTA’s Connecting Communities in Wales Team and Walsingham Support Community Solutions (WSCS) establish and facilitate a weekly luncheon club for residents of Clydach, Ynystawe and Trebanos in the Swansea Valley and provide associated community transport.

£8,500 for the Ystradgynlais community car scheme (YCCS) development project which will expand and widen the geographical area YCCS currently works in, providing more journeys for members, but crucially also delivering greater coverage for new members/service users as we widen our area of operation.

£82,000 for the Ystradowen Community Centre Luncheon Club project which will expand its popular Luncheon Club to include an extra session per week enabling more community members to access the Ystradowen Community hub and take part in a range of new and existing activities. Funding will enable YCC to employ a Community Support Supervisor and Community Transport Co-ordinator, as well as purchase a new accessible car to bring more people into the Centre. *

12.3 Impact of Covid-19 on Community Transport

Like so many other areas of society, coronavirus has caused a huge shift in the way that community transport is operating at the moment. Since lock-down began, the community transport association has been surveying over 200 members to get a clear picture of the changes that have taken place across the sector.

Their new report (19) looks at this changing landscape, detailing how coronavirus has affected the traditional services provided by community transport, the impact it's had on staff, volunteers and funding streams, how their members are adapting their services, and their hopes and concerns about the future. It also shares on the ground, inspiring examples of how community transport providers are stepping up to support the people that rely on them for food, medicine and social contact.

There has been a significant drop in demand for traditional community transport services such as dial-a-ride transport, school contracts, community bus services and community car schemes.

Whilst demand has fallen for essential services such as hospital and health related transport, these services have been least affected, demonstrating the vital role community transport plays in providing essential journeys.

The usual funding streams for community transport have heavily reduced since lock-down began. Most providers are confident that they will retain income from existing grants and local authority funding, but fare income and donations have been the hardest hit. Almost three quarters of members have had staff and volunteers who have been unable to work due to self-isolation.

Despite these challenges, the community transport sector has been stepping up and adapting their services, undertaking new activities such as home delivery of food and medicines, partnering with local foodbanks, as well as increasing phone contact and support for socially isolated passengers.

13. Appendix Y: Ethical Issues With Battery Production (20)

The number of electric vehicles on the world's roads is rising fast. Latest figures show there are [more than three million](#) and sales are [growing](#) at close to 75% a year. Doubts have been raised not only about the ethics of buying one but also about the availability of both-cobalt and lithium.

"Lithium and cobalt are fundamental components of present lithium-ion batteries. New analysis shows that the availability of both elements could become seriously critical. Cobalt-free battery technologies, including post-lithium technologies based on non-critical elements such as sodium, but also magnesium, zinc, calcium and aluminium, represent possibilities to avoid this criticality in the long term" (21)

Amnesty International says human rights abuses, including the use of child labour, in the extraction of minerals, like cobalt, used to make the batteries that power electric vehicles is undermining ethical claims about the cars.

Kumi Naidoo, Amnesty's Secretary General, [told](#) the recent Nordic EV Summit in Oslo

In March 2019, that climate change should not be tackled at the expense of human rights. "Without radical changes, the batteries which power green vehicles will continue to be tainted by human rights abuses," he said. The dilemma however is that if we don't tackle climate change quickly, millions more will die because of the impact it has on the planet.

In addition to this there is an alarming record of human rights abuses by governments and corporations associated with fossil fuel operations, resulting in appropriation of land, forced relocation, and even the brutal and sometimes deadly suppression of critics. In addition to strong evidence for a 'repression effect' from oil production, in which resource wealth thwarts democratization by enabling governments to better fund internal security, dependence on oil is associated with a higher likelihood of civil war. Additionally, oil production has been found to negatively impact gender equality by reducing the number of women in the labour force, which reduces their political influence.

This is not just a problem in developing countries – with a growing amount of oil being produced in North America by extreme techniques, like fracking and tar sands, communities near extraction sites are now raising human rights concerns in Canada and the United States. Both developing and developed countries that are extracting oil have experienced spills and environmental pollution that has forever impacted the health and wellbeing of communities, local fisheries, and waterways.



Cobalt is a big health risk to those - including children - that mine it.

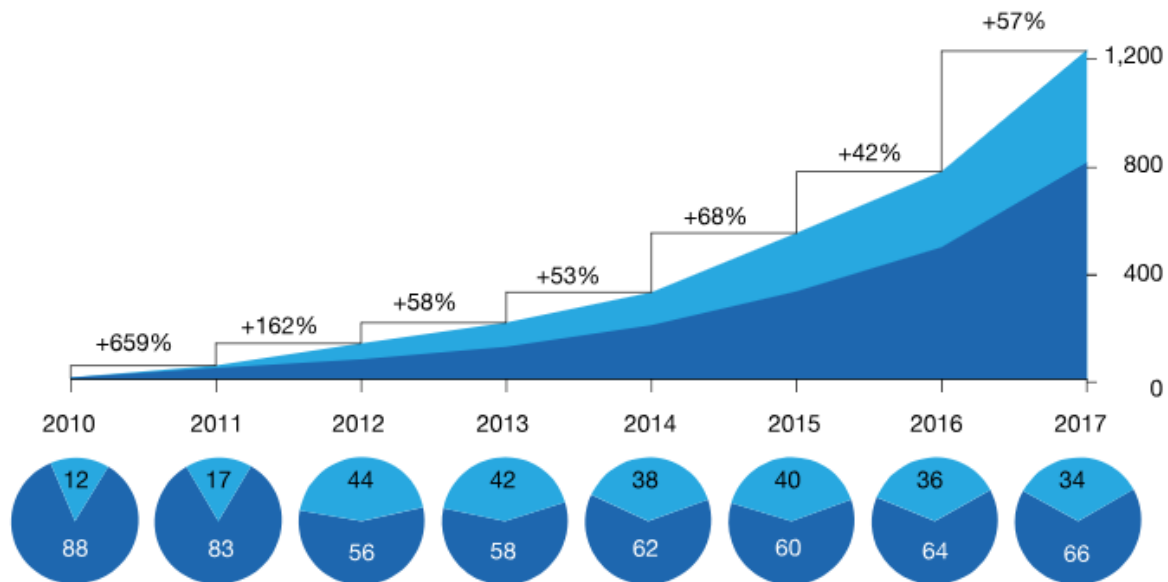
Image: Amnesty International

People want electric vehicles for many different reasons, including ethical ones as we become increasingly aware of the impact of both climate change and air pollution. Yet the growing market for electric cars may be causing harm. By 2020, it's likely that will rise to 4.5 million, or 5% of the global market for cars and small trucks.

Last year, for the first time, global sales of new electric vehicles passed a million units.

■ Plug-in hybrid-electric vehicle ■ Battery-electric vehicle

Global electric-vehicle sales, 2010–17, thousands, CAGR¹



Global demand for electric vehicles is accelerating.

Image: McKinsey

- ***A legacy of conflict and exploitation (22)***

Dangerous working conditions, risks to people’s health, and child labour are a huge problem in the cobalt mines of the Democratic Republic of the Congo (DRC).

As a critical raw material in lithium-ion battery production, cobalt is in high demand. It is needed to power smartphones, tablets, and laptops as well as electric vehicles, but it is the latter where astronomical growth risks perpetuating misery.

Two-thirds of the world’s cobalt is found in the DRC, which is one of the world’s poorest and least developed countries with a [gross national income per capita of just \\$481](#).

The DRC has a history steeped in conflict stretching back to when it was a colony of Belgium. Now the country is the focus of the 21st century’s equivalent of a gold rush. Concentrated in one area (the south-eastern province of Lualaba, near the border with Zambia), cobalt mining has become a source of income for many of the country’s struggling population.

Children as young as 10 are involved in cobalt mining, [earning as little as \\$3.50-\\$10 a day](#) for the dangerous and dirty work, which can involve digging underground, carrying very heavy sacks, and washing the mined cobalt in the river.

- ***Waiting for the cobalt dividend***

In addition to the clear ethical problem of child labour, the conditions of the informal cobalt mines that have sprung up are creating a serious health hazard, [a special report in Fortune has revealed](#).

Although it is present in vitamin B12 and has important benefits in moderation, too much exposure to cobalt can cause asthma, pneumonia, and heart and thyroid damage. The mines themselves tend

to be little more than holes in the ground, with no suitable structural support to prevent collapse, and little or no protective clothing worn by the miners.



Image: Reuters/Kenny Katombe

Many in the DRC see their cobalt deposits as having parallels with oil deposits in the Middle East; if exploited properly, transformative levels of wealth could be released into the economy. In the meantime, scientists are looking for cobalt-free batterie options. (23)

One of the major barriers to a more widespread distribution of cobalt wealth in the DRC is the involvement of foreign-owned mining companies and cobalt merchants. This has resulted in a two-tier cobalt market, where the low-paid job of extraction is left to locals, while the pricing and profit is controlled by outside interests. Yet, for all its faults – and they are legion – the cobalt market in the DRC is the only route to a regular income for many people living in abject poverty.

The World Economic Forum's Global Battery Alliance seeks to address these challenges.

The Allianz identified two major challenges:

"First, raw materials needed for batteries are extracted at a high human and environmental toll. This includes, for example, child labour, health and safety hazards in informal work, poverty and pollution.

Second, a recycling challenge looms over the eleven million tonnes of spent lithium-ion batteries forecast to be discarded by 2030, with few systems in place to enable reuse and recycling in a circular economy for batteries."

The OECD Forum on Responsible Mineral Supply Chains me in Paris in April 2019 where members demanded companies identify their cobalt sources. Apple, BMW, Daimler, Renault, and battery maker Samsung SDI have already agreed to publish their supply chain data.

- **Lithium**

Other regions of the world will also suffer as humanity transitions to electric cars. Specifically, mining for lithium — the essential element for batteries used in many electric cars, as well as other portable electronics — is wreaking havoc on the world's deserts.

Lithium is found in the brine of salt flats. In order to obtain lithium, holes are drilled into the flats to pump the brine to the surface. This allows lithium carbonate to be extracted through a chemical process.

Last week, Bloomberg published a report detailing how the boom in lithium mining is irreversibly destroying the local environment of northern Chile's Atacama Desert. Mining for lithium means removing large amounts of water, which means depleting the water supply for locals. According to the report, the Tilopozo Meadow in Chile used to be a shelter for shepherds traveling at night, yet has become barren due to lack of grass or water. That puts a severe strain on local farmers.

"We're fooling ourselves if we call this sustainable and green mining," Cristina Dorador, a Chilean biologist, told Bloomberg. "The lithium fever should slow down because it's directly damaging salt flats, the ecosystem and local communities."

Cairn Energy Research Advisors estimates the lithium ion industry is expected to grow from 100 gigawatt hours (GWh) of annual production in 2017 to 800 GWhs in 2027—not only as a result of electric cars, but also because lithium is used in batteries to power various electrical and electronic goods, including mobile phones.

Much of this will be mined from the South America's Lithium Triangle, which spans across Argentina, Bolivia and Chile, an area that is said to hold more than half the world's supply of the metal beneath its salt flats. Another major deposit comes from Australia.

Solutions:

The supply for the UK could be covered by Cornish Lithium is using modern exploration techniques and digital technology to re-evaluate Cornwall's mineral potential in the light of the battery revolution. Cornwall has a world-class mineral endowment, but has stood idle for decades. The battery revolution provides the impetus and opportunity to explore for raw materials which are vital to modern technologies. Cornish Lithium believes that the extraction of lithium, in combination with geothermal energy, has the potential to rejuvenate the economy of Cornwall and to provide much needed high value employment across the county. (24)

There is talk among some in the tech sector that lithium-ion batteries need to be replaced by new technology, to avoid the problem of unethically-sourced cobalt. This looks to become reality soon. For decades, researchers have looked for ways to eliminate cobalt from the high-energy batteries that power electronic devices, due to its high cost and the human rights ramifications of its mining. But past attempts haven't lived up to the performance standards of batteries with cobalt.

Researchers from the Cockrell School of Engineering at The University of Texas at Austin say they've cracked the code to a cobalt-free high-energy lithium-ion battery, eliminating the cobalt and opening the door to reducing the costs. Their goal is to use only abundant and affordable metals to replace cobalt while maintaining the performance and safety and to leverage industrial synthesis processes that are immediately scalable. (23)

14. Appendix Z: BWBP: Vision

Bronllys Well Being Park CLT Ltd was established in 2016 as a Community Benefit Organisation dedicated to deliver a ground breaking community asset inspired by and owned by local people, which complements and enhances Bronllys Hospital through the sustainable development of housing, transport, work, leisure, and well-being facilities. As part of its vision and mission, BWBP plans to provide local people with opportunities to address local housing need with genuinely affordable low carbon homes that remain as resources for generations to come. BWBP recognises that these visions can only be achieved in close collaboration and partnership with PTHB and PCC.

BWBP Vision: Bronllys Well-Being Park vision is that of a *Garden Village*, which will care for the rural community of Mid Wales and aims to become a Flag Ship Well-Being Project for Wales.

BWBP Mission: Initiate, promote and develop wellbeing and social care facilities within Bronllys Hospital grounds to add value to the health services provided on site through:

Establishing economic and environmentally sustainable well-being projects

Supporting employment opportunities

Initiating and organising social and sporting activities to improve lifestyle and well-being

Help providing genuinely affordable housing and sustainable transport

BWBP Value Statements:

As a Community Land Trust, we foster an environment of collaboration for a shared purpose.

Our success is dependent upon the collective and positive energy of all people and organisations involved working to achieve our mission and goals.

We encourage innovation to meet challenges.

We promote honesty and transparency.

We respect our environment and consider the impact on it, in all our decisions.



15. SWOT Analysis

<p><u>Strengths</u></p> <ul style="list-style-type: none"> - The Well-being of Future Generations (Wales) Act 2015 - Positive encouragement and support by Powys County Council - Endorsement by Bronllys Community Council, Hay-on-Wye Town Council and Talgarth Town Council - Outstanding geographical location - Exceptional environmental setting - Extensive spread and range of public, voluntary and private sector management skills and expertise at board level 	<p><u>Weaknesses</u></p> <ul style="list-style-type: none"> - Start-up social enterprises - Formal agreement for asset transfer with Powys Teaching Health Board yet to be received - Area of influence within the Bronllys Park Estate yet to be defined - Lack of funds to deliver vision without asset transfer.
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> - Build and develop a unique, flagship community enterprise focused on delivering world class well-being services - Exploit existing and future funding opportunities that public bodies cannot. - Enhance local cultural, recreational and sporting capacity - Reach short term agreement to manage and monitor enquiries for use on behalf of PTHB - Work closely with PTHB and PCC to provide innovative well-being services - Utilise locally available skills and expertise - Support and use new, locally sources, sustainable living technology 	<p><u>Threats</u></p> <ul style="list-style-type: none"> - Negative changes to Welsh Government well-being policy - PTHB identifies alternative uses for the park and built environment - Failure to reach agreement with PTHB on the acquisition of the site on viable terms - Inability to identify and source suitable funding - Site is left to deteriorate and sold off to fund deficits elsewhere.

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