

Report of Head of Decarbonisation

Subject: Pembrokeshire Coast National Park Electric Vehicle Charging Infrastructure

Purpose of Report

To provide members with a review of the work Pembrokeshire Coast National Park Electric Vehicle Charging Infrastructure Project.

Introduction/Background

In April 2021, Welsh Government published the Electric Vehicle Charging Strategy, setting out its plans for charging electric cars and vans in Wales. This strategy aimed to ensure that by 2025 all electric car users could be confident that they could access electric charging points when and where they needed to. Electric vehicles are a key route to assisting decarbonisation of the transport network, contributing to action on climate change and improving local air quality.

In 2021 PCNPA approached Pembrokeshire County Council to support the roll out of an electric vehicle charging point project as a collaborative project. The project was delivered over 3 phases.

Low carbon transport in and around Pembrokeshire is a challenge, due to limited public transport options or safe cycling routes. Previously, there was also limited access to EV charging in the county and Park, reducing likelihood of uptake of EVs by the public. The roll out of the scheme was therefore identified by PCNPA as a key opportunity to improve access to EV charging points in line with the Authority's aim of supporting wider decarbonisation across the National Park.

Activity Undertaken

The installation of EV charging points to create a county wide network was completed in June 2023. The network is designed to give thorough coverage across the county of Pembrokeshire to address the EV charging needs of residents, visitors and to support and encourage the transition to electric vehicles. Rapid charger locations were chosen to be visitor destination "hubs" and are positioned close to the trunk road network and major ferry terminals in Pembrokeshire. The same charging units as Pembrokeshire County Council were installed to ensure a coordinated approach and seamless delivery across the county.

In summary the total number of charging sockets installed under 3 phases is as follows :-

"Rapid" chargers (50kW)	18 No.
"Fast" chargers (22kW)	95 No.

“Slow” Chargers (7kW) 1 No.

Total charging sockets across our network (23 sites) 114 No.



Electric charging “hub” at Saundersfoot car park

The same charging units as PCC were installed to ensure a coordinated approach and seamless delivery across the county. Given Pembrokeshire’s established and vital tourism industry the project also enables the county to promote the concept of ‘eco-tourism’ to visitors.

The project was funded by the Welsh Government and delivered in partnership with Narberth-based Silverstone Green Energy. The PCNPA involvement was led by Andrew Muskett Buildings Project Manager, and at PCC by Steve Keating former Energy and Sustainability Manger.



Pictured with the PCC former Sustainable Development and Energy Manager, Steve Keating (centre) at the electric vehicle charge-point at the Parrog in Goodwick are: Andrew Mackay (left), Construction Project Manager at Silverstone and Andrew Muskett, Building Projects Manager at the Pembrokeshire Coast National Park Authority.



Data on Site usage

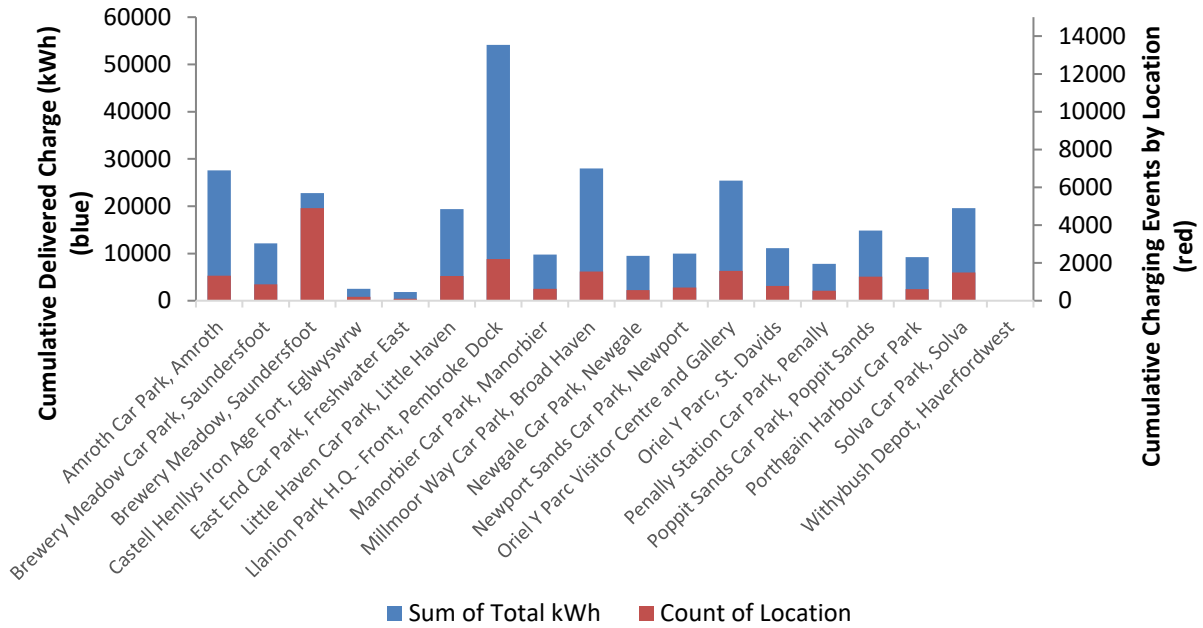


Figure 1 Relative Usage of Charging Locations since commissioning, by Total Delivered kWh and Count of Valid Charging Events

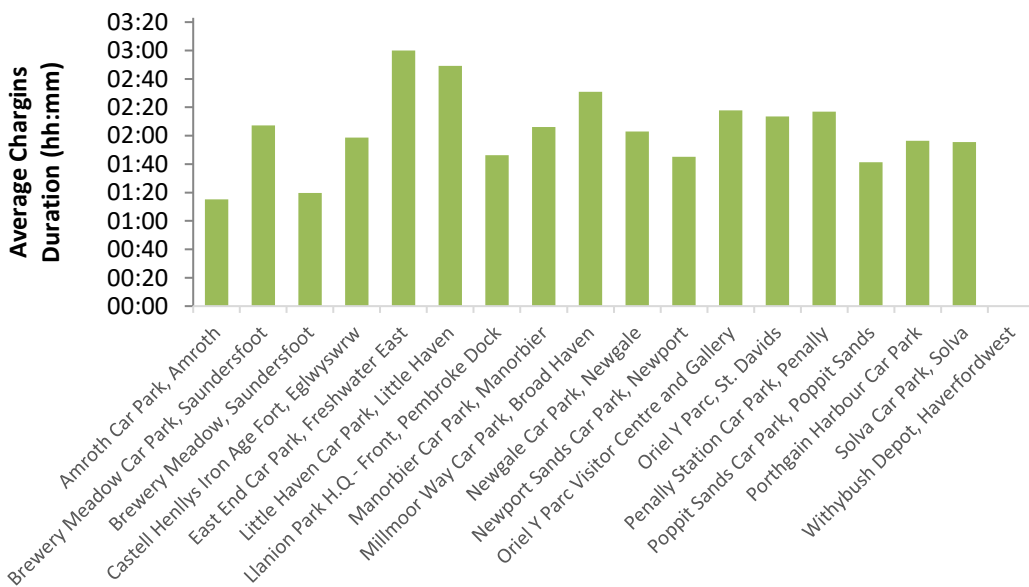


Figure 2 Average Valid Charging Duration since commissioning by Site

EV charging points in Authority car parks were used 8,367 times in 2023/24, this compares to 6,634 in 2022/23. With average time taken to charge 1 hr and 53 minutes.

The graphs above provide a range of data on usage of the EV charging points. Significant differences in the usage of chargers at different sites are present in the usage data, with longer average durations notable at charging locations such as Freshwater East, Little Haven, and Broad Haven potentially indicative of greater usage by residents or guests, and shorter durations such as at Amroth and Brewery Meadow, Saundersfoot of usage by day visitors.

Data on overall network usage over time

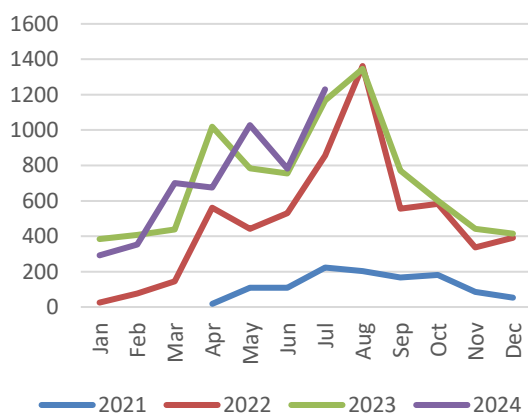


Figure 3 Aggregated Count of Valid Charging Events by Month and Calendar Year

As could be expected, usage of chargers is highly seasonally correlated, with ~70% of valid charging events between April and September. Usage of chargers increased significantly each year between 2021 and 2023, but only marginally between 2023 and 2024. If trends continue, the chargers will be used around 8500 times this year.

Most charging sessions are under 2h05m, with the most common range between 1h30m and 2h00m. Most charging sessions deliver under 25 kWh, less than 50% of the capacity of an average BEV battery.

Visitor Feedback

We (family of 4) visited Pembrokeshire over half term, travelling from the Wye Valley, Gloucestershire travelling in our electric Nissan Leaf (standard, not large, battery). We used this trip to test out how family holidays could work using this car, rather than our petrol estate car (bought thinking with two children, we'd need this for family holidays - we'd now like to prove ourselves wrong!). We did some basic research before our arrival and worked out we would need to stop in Carmarthen to charge on the way, but then expected to be able to charge overnight using a three pin plug at our accommodation. However, on arrival, this proved not possible so quickly needed a plan B. We were delighted to see Pembrokeshire Coast National Park car parks

now have charging points - how sensible and convenient - how using green tech should be if we are collectively serious about addressing climate change! We visited Broad Haven and Saundersfoot to use their chargers (and to explore the beaches of course!). Both were easy to use, highly cost effective and easy to find. We liked the 4 hour limit so in peak times we could have the confidence of getting a charge, even if the points were in use on our own arrival. We managed our entire journey home to Gloucestershire on one charge after leaving Saundersfoot - amazing as our toddler was sleeping and stopping to charge would have woken him! We think it is excellent that your team have really thought about making it easier for the public to use green transport options. We certainly will be repeating our trip to Pembrokeshire safe in the knowledge we can do so in a budget price electric car and still have a fantastic time exploring all the stunning national park has to offer! Lots of people think lack of availability of charge points is a reason not to switch to electric vehicles, as far our trip goes, we think this is not the case: you made it easy for us to be happy to return. We have always enjoyed Pembrokeshire and often recommend to friends "it's like Cornwall, but better" and now have an extra reason to 'plug it' - ha ha! Thank you - and congratulations to your team for a job well done!

Comparisons

The project and joint approach have resulted in the Pembrokeshire Coast having the highest number of EV charge points available in any National Park in the UK. On 1st July 2023 Pembrokeshire was the #1 local authority in Wales for availability of EV charge points, having the most numerically and per head of population. Pembrokeshire is also in the top 20% UK-wide.

For a full list of sites, see this map:

[Markdown map LocalAuthority publication template.knit \(dft.gov.uk\)](#)

Financial considerations

The total project cost across the three phases was as follows :-

Phase 1	£82,036
Phases 2 & 3	£1,396,774

Funding came from Welsh Government Sustainable Landscape Sustainable Places (SLSP) funding.

In line with the model adopted by PCC the chargepoints must not incur any additional outgoing cost to the Authority, the installation, operation, future upgrades and maintenance of the chargepoints and all hardware, software, metering & electricity supply, back office, payment, communication (including SIM fees), and call handling systems are completely handled by Silverstone Green Energy Ltd. (SGE) the successful tenderer.

The income generated from the chargepoint network is to be shared via a profit* share arrangement between the successful Contractor and PCNPA. The profit share proposal is suggested in recognition that the Provider will be taking on a substantial

element of future project risk and this is a strong way to create a sustainable, well maintained EV charging service for users (enhanced user experience is considered critical to encourage uptake) whilst also supporting growth of a Provider in the burgeoning EV charging SME sector.

*Profit is defined as total revenue, minus total expenses from the operation of the EV charging systems in a given period. i.e. net profit – the remaining income after all operating costs, debts and expenses relating to the EV charging systems.

Silverstone Green Energy operate the Dragon Charging network which is the customer portal to access the chargers <https://www.dragoncharging.co.uk/>. The FAQs page <https://www.dragoncharging.co.uk/faq/> is very useful to get an understanding of how to use the network. PCC, PCNPA and now Port of Milford Haven are all part of the Dragon network as well as chargers in the local authority car parks in Ceredigion, Carmarthenshire, Powys, Newport (Gwent), and a cluster in the Valleys north of Cardiff.

The “back of office” is on the Clenergy platform, based in Cardiff they offer more control for SGE over back end software. They offer flexibility with chargers, drivers and drivers accounts and the ability to create and manage fleet accounts, this has been a recent upgrade and found very reliable.

A staff information sheet is available for additional details on the operation of the EV Network. (See Appendix 1)

PCC & PCNPA are currently working with Silverstone Green Energy to review the initial form of concession contract which ultimately will be rolled out across Wales as an exemplar for their contracts.

Risk considerations

Implementing a new technology carries innate risks both financial and reputational. These risks were mitigated by the decision to work in partnership with PCC on this project (further to their successful delivery of the first phase of their network) and by the choice of financial model and business partner.

PCNPA also recognised that there was a significant risk in terms of not taking action that locations around the Pembrokeshire coast would be otherwise disadvantaged. The fact that as a result of the roll out Pembrokeshire has one of the best networks in the UK is a significant achievement by PCC and PCNPA which has resulted in both environmental and financial benefits to the National Park community as a whole.

As a first adopter there is a risk that technological advances require future upgrades with additional financial costs, however the financial costs of any future changes are not considered likely to be significant at this stage. There has also been the need to adjust and review the concession contract, however these adjustments have not been significant.

Compliance

This installation of charging points supports Policy N1: Contribute to a low carbon economy for Wales and adapt to climate change in terms of the Pembrokeshire Coast National Park Management Plan 2020-24. It also aligns with the Authority's high level strategy priority Climate – Destination: Net Zero and its Climate Well-being Objective – To achieve a carbon neutral Authority by 2030 and support the Park to achieve carbon neutrality and adapt to impact of climate change.

Well-being Objectives it relates to, Globally Responsible, Resilient, Healthier Wales Target net zero by 2030.

The project was delivered in partnership with the Pembrokeshire County Council which has ensured a unified approach to the infrastructure for electric vehicle charging across the whole of the County, allowing a seamless delivery across Pembrokeshire.

Information has also been shared with Transport for Wales.

'Fast' & 'Rapid' charging increased across the county, supports increase electric vehicle purchase, benefiting residents who do not have off-street charging. Supporting corporate carbon reduction from EV's and WG targets.

The infrastructure is supporting regenerative tourism in the county as well as reduce carbon emissions and increase tourist dwell time, enjoyment and spend. One of our sites is on the Wales Way.

The Welsh Government have in place an Electric Vehicle Charging Strategy for Wales that sets out the following vision for charging in Wales:

“By 2025 all users of electric cars and vans in Wales are confident that they can access electric vehicle charging infrastructure when and where they need it.”

This strategy feeds into the Welsh Governments Transport Sector ambitions within its Net Zero Wales Carbon Budget 2 (2021-25).

This activity is also supporting the Authority to transition its own fleet to low emission vehicles, particularly the transition to electric vans through development of network of charging points at PCNPA sites. Aligning with the Welsh Government's aspirations in terms of Mobility and Transport in its Net zero carbon status by 2030, route map for decarbonisation across the Welsh Public Sector.

Human Rights/Equality issues

No issues

Biodiversity implications/Sustainability appraisal

As identified above, roll out of EV charging points is considered to support action to address climate change in reducing carbon emissions as well as supporting a sustainable transport system which also addresses potential local issues of air pollution. This project therefore accords with Welsh Government strategy and policy

as well as the aims of the National Park Management Plan. The project has significant sustainability advantages.

One of the unforeseen issues which emerged in the roll out was that the model of chargers included a bright indicator light which has in some cases caused localised light pollution, the light being more obvious in very rural locations depending on the siting of the unit. This matter has been addressed in locations where an issue is identified by a temporary retrofit of tape to cover the light – a simple but effective solution. Light pollution has the potential to negatively impact on protected species such as bats and to disturb the tranquillity of the National Park which is identified as one of its special qualities. Should further chargers be installed in the future, this consideration would be included when choosing a suitable unit. The temporary solution identified has however addressed the matter sufficiently in the locations impacted.

Welsh Language statement

The project is not considered likely to have a significant effect on the Welsh language, although in supporting communities across the National Park to access EV charging points it is indirectly supporting the sustainability of rural communities, including those with a high percentage of Welsh speakers.

The charging equipment displays clear, simple to understand instructions for payment/access (as appropriate) and equipment operation in both Welsh and English languages. Additionally, customer support is provided 24 hours a day in the languages of Welsh and English.

Conclusions

The project is a successful example of public and private partnership, as well as collaboration with Pembrokeshire County Council.

The roll-out has led to an excellent geographical distribution of new EV charging points across the National Park resulting in the Pembrokeshire Coast having the highest number of EV charge points available in any National Park in the UK. On 1st July 2023 Pembrokeshire was the #1 local authority in Wales for availability of EV charge points, having the most numerically and per head of population. Pembrokeshire is also in the top 20% UK-wide.

As an early adopter there are always lessons to be learnt and a need to continue to adjust the working model to ensure that it works as effectively as possible as new issues emerge. These adjustments include considering issues such as light pollution risks and a need to ensure an ongoing viable financial model. These considerations are being addressed by Officers as the project continues to evolve.

The project however is considered a very successful example of early roll-out which accords with Welsh Government strategy and the wider decarbonisation aims of the Authority.

It is hoped that this project will lead to a long-term improvement in the numbers of people using EVs. We will continue to monitor usage at different sites to see where charge points get the most usage and adjust our offering accordingly.

Recommendation

Receive the report and note for future consideration

Appendix 1

The following electric vehicle (EV) charging points are operational for the **public**:

Location	Address	No. of charging points	Type
Amroth	Amroth Car Park SA67 8NQ	1 4	Rapid Fast
Broad Haven	Millmoor Way Car Park, Broad Haven SA62 3LB	2	Fast
Castell Henllys	Castell Henllys Car Park SA41 3UR	4	Fast
Freshwater East	East End Car Park SA71 5LL	4	Fast
Haverfordwest	Withybush Depot SA62 4BR	1	Rapid
Llanion Park (front)	Pembroke Dock SA72 6DY	2 2	Rapid Fast
Little Haven	Little Haven Car Park SA62 3UN	4	Fast
Manorbier	Manorbier Car Park SA70 7SY	4	Fast
Newgale	Newgale Car Park SA62 6BD	4	Fast
Newport	Newport Sands Car Park SA42 0RE	4	Fast
Nolton Haven	Nolton Haven Car Park SA62 3NH	4	Fast
Oriel y Parc Visitor Centre and Gallery	Oriel y Parc Car Park, St Davids SA62 6NW	2 10	Rapid Fast
Penally	Penally Station Car Park SA70 7PS	2	Fast
Poppit Sands	Poppit Sands Car Park SA42 3LN	4	Fast
Porthgain	Porthgain Harbour, Porthgain SA62 5BN	2	Fast
Saundersfoot	Brewery Meadow Car Park, Saundersfoot SA69 9HS	4 6	Rapid Fast
Solva	Solva Car Park SA62 6UT	4	Fast

Charging details:

Connection charge: £0.00 (no connection fee)

Electric charge: 65p per KWh

Fast charge points: Max 22 kW (max)

Average fast charge time: 3–4 hours
(dependent on vehicle charging capacity)

Rapid charge points: 50 - 120kW

Average rapid charge time: 1hr

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