SP Energy Networks Drive to Decarbonisation Newsletter November 2020





Electric Vehicles (EV)

The Charge Project is an exciting initiative from SP Energy Networks, delivered in collaboration with EA Technology, PTV Group and Smarter Grid Solutions, that aims to accelerate the UK's transition to electrified transport.

It's also a vital part of SP Energy Networks' commitment to helping the UK achieve net-zero carbon emissions. Running for four years throughout Merseyside, Cheshire, North Shropshire, and North & Mid Wales, the Charge Project will – for the first time – merge transport and electricity network planning.

It will create a comprehensive map of the region to identify where EV chargepoints are needed and can be best accommodated by the electricity network. It will also pioneer smart connection agreements to boost chargepoint installation. The project will culminate in the release of an industry leading self-service tool for public chargepoints called 'ConnectMore', which will drastically reduce the time it takes customers to receive an indicative budget cost to connect to the network. Along with the high granularity network capacity maps and transport model findings ConnectMore will play a major role in accelerating the investment and installation of chargepoints.

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Smart Charging Connection trials

One of the innovative tools at the heart of the Charge Project is 'smart charging connections' for EV chargepoints.

Two of the big challenges facing the UK in its drive to become an EV-friendly nation are installing enough chargepoints and ensuring that the electricity network is able to accommodate them. Smart charging connections address both of these challenges. A smart charging connection utilises the intelligence of modern 'smart chargers' to have them autonomously follow the available network capacity. By doing so it enables SP Energy Networks to provide greater access to the network than would be traditionally released. This also means more chargepoints can be installed in single locations without the need for expensive network reinforcements. To understand how smart charging connections work in the real world, SP Energy Networks is currently conducting a major trial of the technology across the Charge Project region.



Project Dissemination

CENEX LCV

Members of the Charge Project team – Geoff Murphy at SP Energy Networks, Elaine Meskhi at EA Technology, and Laurence Chittock at PTV Group – recently presented at Cenex-LCV, the UK's premier low carbon vehicle event (18–19 November).

Speaking to an audience of key stakeholders, the team gave an overview of the smart charging connections trial and transport model announcement, as well as previewing the next chapter in the Charge Project story: ConnectMore.

Charge Newsletter

With 2021 being a major year for the project we want to make sure our key project stakeholders are kept regularly updated on the latest developments. As such we have launched the Charge Project Newsletter.

You can find copy of the first Charge Newsletter on our webpage: www.spenergynetworks.co.uk/pages/charge.aspx

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Heat

SP Energy Networks is currently engaging with a range of stakeholders including the local authority and housing association on a project to reduce rural fuel poverty in North Wales. We are investigating the options for a community-managed heat pump project to meet residential and heat and hot water needs, whilst also decarbonising and reducing bills for customers.

The village, which is off-gas, is being investigated for a range of options for affordable, low-carbon heating including both distributed air source heat pumps as well as a centralised community heating scheme.

SP Energy Networks is presently offering support by carrying out preliminary network analysis to evaluate what effect such a scheme may have on distribution network, what possible reinforcement may be necessary and their potential costs. It is hoped that by providing this information to stakeholders early in the process, they can make a more informed decision on their best route to affordable, low-carbon heating.

Furthermore, the project will allow SP Energy Networks to better understand how similar future schemes may operate, the effect such schemes will have on the network, and to potentially provide a blueprint for other heating schemes in rural areas across the UK.

Innovation Projects

Energy Local Bethesda is a forward-thinking project that aims to provide its community with cost-efficient, renewable energy. SP Energy Networks is working alongside Energy Local and De Montford University on this NIA funded project to help find a deliverable solution. By matching local energy consumption of the 100 homes around Bethesda to the energy generated by a local hydro facility, carbon emissions with be reduced and energy can be used more efficiently. This project has the potential to lower energy bills by 30% for the local community, especially when the hydro facility is working at full capacity.

To make the community aware of the most cost-efficient time to use energy, a domestic home hub is being developed that will inform individual households of the best time to use electricity each day. This will be based on forecasts of local energy demand/generation and a time of use tariff.

This innovative idea will allow households to schedule appliances at the optimal time, and by encouraging customers to shift their electricity usage to times were demand on the network is typically lower, costly reinforcement schemes can be avoided. In addition, any surplus revenue generated will be invested into improving the local community.

As we progress towards our goal of Net Zero Carbon, SP Energy Networks is dedicated to finding new ways of managing increased demand on the distribution network. This will be key to delivering a reliable, value for money service to our customers.





Community Projects

SP Energy Networks has been working with Ynni Llyn to help them achieve their vision of creating a renewable, reliable and predictable energy ecosystem that is beneficial for the community.

The community faces many challenges, with 43% of the local population suffering from fuel poverty and 69% in transport poverty.

In addition to this, the distribution network on Llyn peninsula has some constraints for future Distributed Generation connections and in some areas will require reinforcement of our network for any demand growth as the local communities' transition to electrified transport and heating.

As the UK progresses towards net-zero, it is important that no community is left behind as we see rises in the installation of Low Carbon Technologies such as electric vehicle charging and heat pumps.

By working together with Ynni Llyn, SP Energy Networks aims to provide a holistic model of methods in which the Llyn Peninsula can maximise utilisation of their current network infrastructure. To achieve this, the project will analyse the network to provide specific scenarios in which Ynni Llyn could integrate low carbon technologies using distributed generation. In the future, the outputs of this project could be used as a feasible framework in which rural areas could progress towards being net-zero.