SP Energy Networks

Drive to Decarbonisation Newsletter March 2021

Electric Vehicles (EV)

There has been a huge increase in the number of electric vehicles (EVs) on our roads over the past year, and with the sale of petrol- and diesel-fuelled vehicles banned from 2030, that number is only set to rise. That's fantastic news for the environment and moves Britain closer towards meeting its target of becoming carbon net-zero by 2050.

The Charge Project is meeting the challenge of accommodating this growth in EV usage by developing a unique online solution designed to speed up the decision-making process around chargepoint installation. It's called **ConnectMore**, and over the next few months, we'll be introducing its first stage, the 'ConnectMore Interactive Maps' (CIM). Developed in collaboration with our core stakeholders, the CIM will provide insight into both future EV charging demand and network capacity across the North West region.

The project had hoped to have this element of the ConnectMore tool available in March, but we are now aiming for early summer. Once available, we will be holding a webinar and providing an opportunity to demo the maps before releasing the CIM publicly.

Geoff Murphy, lead for the Charge Project at SP Energy Networks, says: "The CIM is a potential game changer for public chargepoint installation. In the past, both local authorities and businesses have been put off from investing in EV charging because establishing the need and feasibility in many areas has been too time-consuming and complex. The CIM could change that forever, by quickly delivering the hard evidence that's needed to get chargepoint projects off the ground."

The Charge Project has also been undertaking a trial assessment of real-world performance of 'smart charging connections' – the Project's other key initiative – which can intelligently control the power consumption of chargepoints. A big attraction for trial participants is the opportunity to install more chargepoints in the same location without the need for expensive network reinforcements. The call for trial participants launched in November 2020 and is open until summer 2021.

By enabling more chargepoints to be installed without disrupting the network, smart charging connections will help accelerate the roll-out of a comprehensive public charging infrastructure.

You can find out more about the Charge Project here: www.chargeproject.co.uk

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Heat

SP Energy Networks are supporting a small rural village in North Wales with their decarbonisation goals. The community of Llanarmon yn lal are looking to reduce their carbon footprint by installing Heat Pumps into 200 homes in the local area.

In addition, two new housing estates are being constructed, and all 46 of these new homes will be constructed with Heat Pumps or a Heat Pump Network.

SP Energy Networks supports this community's energy goals, and we are working to ensure this work can be carried out. With these developments comes increased demand to our network, and we are using our innovative After Diversity Maximum Demand (ADMD) calculator to estimate the increase in demand. It is important we are aware of the future increase of demand that will come with the increased uptake of low carbon technologies such as Heat Pumps. Our findings from the ADMD calculator will help us understand what reinforcement will be needed to increase supply to the village, and where the reinforcement work needs to be carried out.

Llanarmon yn lal are also looking to install one Communal EV charging location comprising of 3 chargers. This supports the decarbonisation of transport in the area by helping to encourage the uptake of Electric Vehicles. We look forward to providing our continued support to this local community.

More information on the ADMD calculator will be released throughout 2021.

Innovation Projects

At SP Energy Networks, we're proud to be leading the way in the transition to be net zero by 2050 and net zero by 2045 for the Scottish Government, and focusing on decarbonisation to help reach this target.

As the UK moves towards cleaner, greener energy solutions, it's vital that new options and ideas are explored to ensure the network is resilient enough to support this transition.

A key aspect of this is being able to ensure that power can be rapidly restored in the highly unlikely event of a total or partial shutdown of the National Electricity Transmission System. The current approach to restoration relies on large power stations and fossil fuels like coal and gas to provide this backup, but new methods must now explore how distributed energy resources (DER) can help.

SP Energy Networks was involved in a global first when a recent trial used energy from ScottishPower's 69MW Dersalloch onshore wind farm in South Ayrshire to re-energise part of the power grid. The project saw us work alongside Scottish Power Renewables as it deployed the latest technology at the wind farm, and we used our expertise to use the power to restore part of our power grid. The successful project proved that wind power can restore 'blacked-out' sections of the transmission network.

Further to this, we're proud to be involved in Distributed ReStart, a project which is being led by National Grid Electricity System Operator (NGESO) in partnership with SP Energy Networks and TNEI, a specialist energy consultancy. This project is exploring how distributed energy resources can be used to implement a 'bottom-up' restoration strategy. The project was awarded £10.3million of Network Innovation Competition (NIC) funding and is now at the stage of progressing several live network trials to see how the concept works in practice.

Last October we started the first of these trials at the Glenlee hydro power station in Dumfries and Galloway where, in collaboration with the owner Drax and our project partners NGESO and TNEI, we used its 11kV connected generator to simultaneously energise 50km of the 132kV transmission overhead line network, along with two grid transformers. More live network trials are planned for later this year.

Distributed ReStart represents a significant step change in how we re-energise the electricity transmission system in the event of a total or partial shutdown. The time to invest in futureproofing our electricity networks is now and I'm proud that SP Energy Networks is leading the way in developing innovative technologies to deliver a green and resilient grid system and help us achieve our net zero targets.

For more information about Distributed ReStart, click here.

For more information about SP Energy Networks involvement in Distributed ReStart, click here.

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DSO/Flexibility

SP Energy Networks has accepted bids totalling 139MW of flexibility services in the latest round of tendering.

To meet the evolving needs of its customers and to play our part in meeting Net Zero targets, SP Energy Networks are developing smarter, more flexible network solutions. These solutions can defer or avoid the need for traditional reinforcement, keep customer bills as low as possible, and help deliver the changes that will significantly reduce our carbon footprint.

SP Energy Networks tender sought 960MW of flexibility services across 1,100 locations in both their SP Distribution (SPD) and SP Manweb (SPM) licence areas for the period 2023-28. 40 of these locations are at high voltage (HV), extra-high voltage (EHV) or 132kV, the remainder on the low voltage (LV) network. This tender is the first time SP Energy Networks have tendered for flexibility at LV.

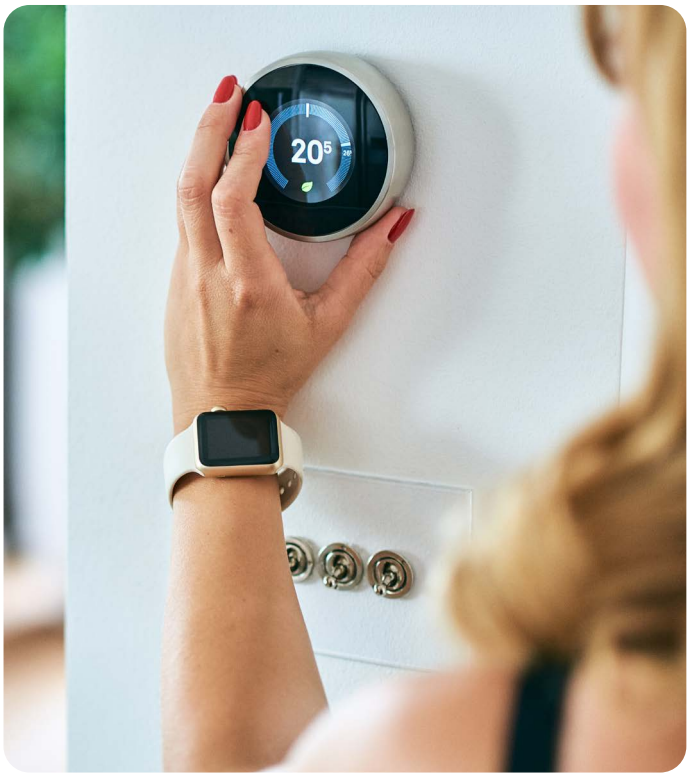
From this tender, we received a large amount of response to their requirements at HV, EHV and 132kV. At LV, we were pleased to receive bids from flexibility tenders across 55 sites. In the SPD distribution area, which covers Central and Southern Scotland, we have secured 23.5MW of flexible energy across 10 locations at HV and EHV. In the SPM area, which covers North West England and North Wales, we have secured 112.8MW of flexible energy across 12 locations at HV and EHV. And across both distribution areas we have accepted bids for 3.2MW of flexibility on our LV networks at 33 locations.

The company would also like to hear from customers interested in providing flexibility services. Click here to find out more about SP Energy Networks and if you would like to contact us directly please do so via flexibility@spenergyservices.co.uk

Graham Campbell, Head of Whole Systems and Commercial for SP Energy Networks, said:

"We are encouraged by the responses from flexibility providers to this latest tender as they enable us to identify the level of flexible capacity available in areas where it could benefit the network, understand the capabilities of these resources, and assess the viability of using flexibility to meet network requirements.

Whilst we didn't meet the full needs of our flexibility tender, we are delighted at ever increasing volume of participants in the tenders we have issued to date. We believe there is far more to come and will looking to bridge that gap through our next tender, issued later this Spring, 2021."



"To meet the evolving needs of its customers and to play our part in meeting Net Zero targets, SP Energy Networks are developing smarter, more flexible network solutions. "

55 sites received bids from flexibility tenders

33 sites have had bids accepted 3.2MW of flexibility on our LV networks

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Community Projects

Throughout the COVID-19 pandemic our dedicated teams have been working safely around the clock to keep the power flowing to all 3.5 million households and businesses across our licence areas in Central and Southern Scotland, Merseyside, Cheshire, North Shropshire and North & Mid-Wales.

Our colleagues quickly adapted to new ways of working and established COVID-secure working practices and processes to ensure our communities could continue to work and stay connected to family and friends. Our engineers continued essential maintenance and repair work to secure the resilience of the electricity network, as well as going the extra mile to inspect, protect and ensure resilient power supplies to critical facilities like hospitals, vaccine centres and social care facilities at the frontline of the fight against COVID-19.

We conducted comprehensive reviews of our infrastructure around 56 large NHS and private hospitals across the areas we serve to bolster their robust contingency plans and we introduced prioritisation of works to provide additional capacity to new field hospitals and vaccination storage facilities.

Our CEO Frank Mitchell said:

"While the COVID-19 pandemic brought challenges unlike any we've seen before, I am extremely proud of how our teams have responded to this crisis.

We've implemented additional COVID-19 safety procedures and swiftly adapted to new ways of working to ensure that the 3.5m homes and businesses we serve, including critical health and social care facilities, can rely on a safe and resilient electricity supply through the lockdowns and beyond.

Our customers and communities are at the heart of what we do and I'm glad that we were able to help those in need through our Priority Services Register, charity partnerships and community engagement initiatives. We're committed to continuing to support our communities through their journey to green recovery as we work to deliver a better future, quicker."

3.5million

households and businesses have had their power kept flowing throughout the COVID-19 pandemic

56

large NHS and private hospitals had comprehensive infrastructure reviews done

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Community Projects

Our focus throughout our response has been on providing additional support to those who need it the most. We adapted our support services and shared a vulnerability mapping tool with all local authorities and emergency services to provide additional support and protect our vulnerable customers.

Many of our teams volunteered to support at-risk groups within our communities by delivering essential items and food to them during lockdowns and over Christmas. Our colleagues across the business continued spreading much needed festive cheer by raising over £5,000 for Radio City's Cash for Kids Mission Christmas appeal and donating hundreds of presents to Edinburgh-based organisation Helping Hands, to brighten up the holiday season for the individuals and families in need.

We have also provided funding to a number of charities to help them continue to support our communities during lockdown. We partnered with British Red Cross to help them provide food parcels, medicine deliveries, fuel top-ups and welfare check-ins, while our donation helped volunteers in their Glasgow hub support vulnerable adults and asylum seekers across Glasgow and Midlothian. Thanks to funding from our COVID-19 charity fund, Food Train Scotland was able to provide reliable weekly shopping delivery service and wellbeing check-in calls for those who were housebound with no family or friends for support, while the Support in Mind charity was able to offer their service users both remote and increased carer support.

During a year which has been particularly challenging for our NHS, we worked with service partners and the Wirral University Teaching Hospital to revamp the Arrowe Park hospital Garden with an outdoor seating area, so patients, staff and visitors can now enjoy some fresh air. Later in the year our teams helped install the Rainbow Flower display for the Arrowe Park Hospital's fundraising initiative and we also helped to raise £10,000 for Nightingale House Hospice by collecting Christmas trees for recycling. We continue to support the Nightingale House Hospice through our sponsorship of their ongoing Build A Balloon Campaign, to enable them to raise funds and continue to deliver vital support and care for the patients and their families.

We're proud to support our communities as we continue to keep the power flowing and build a cleaner, greener future.

More information on our charity donations is available here

Policy Guidance

Throughout 2020/21 we have upheld our Policy Guidance action to update and improve the information we have available for our customers, which can be found on our website - www.spenergynetworks.co.uk/pages/documents.aspx

We have updated and published the following documents:

SUB-01-018 Substation Flood Resilience Policy