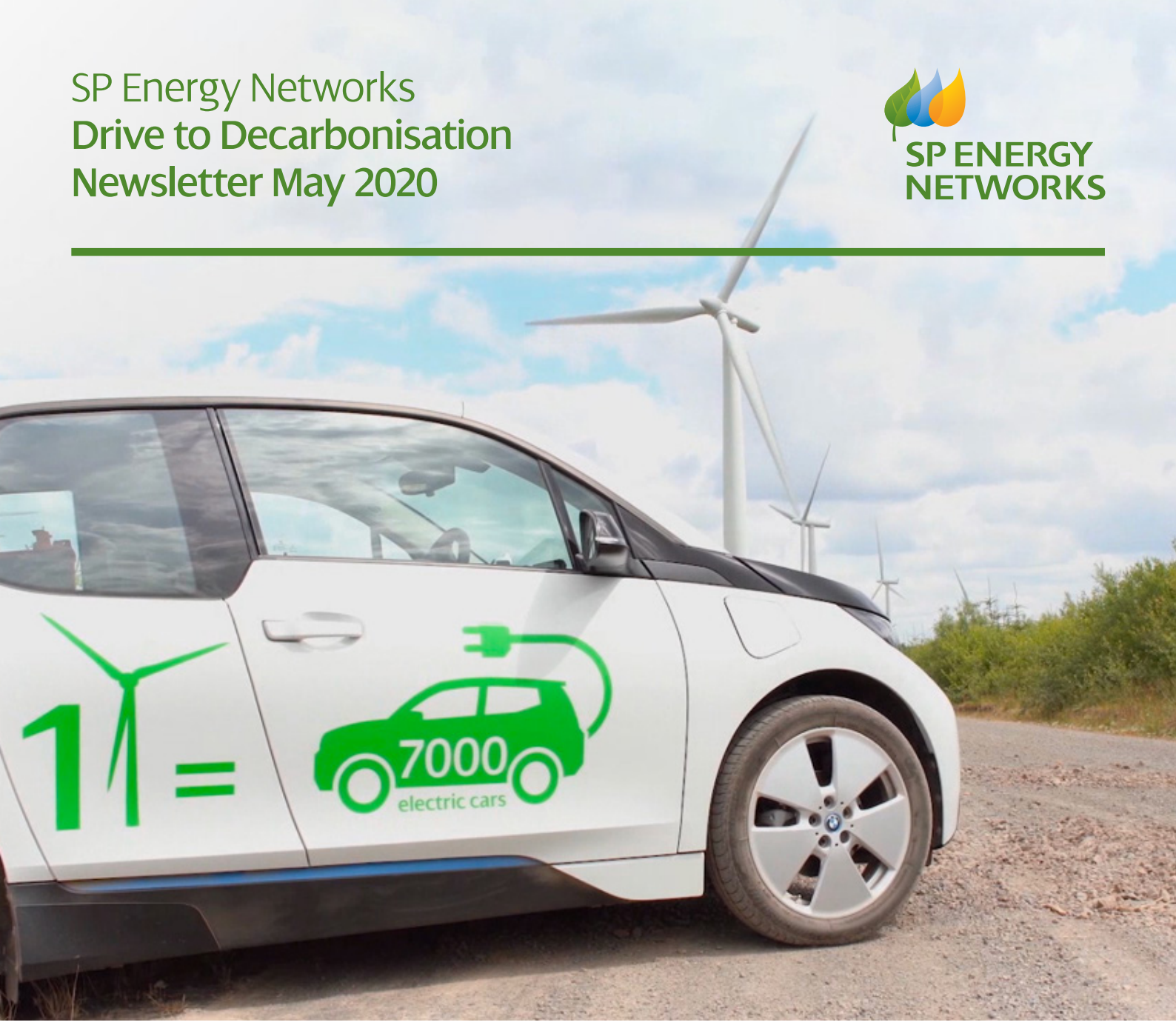
SP Energy Networks
Drive to Decarbonisation Newsletter May 2020



Electric Vehicles

Our Ofgem Network Innovation Competition (NIC) Project Charge is continuing at pace in encouraging public EV charging destinations across our SP Manweb Licence area.

Smart Charging trial sites for summer 2020 have now been confirmed and we are working with partners such as Warrington Borough Council to achieve operational smart charging solutions. We will share the outcomes of these trails to maximise number of EV charge points per site whilst simultaneously managing network constraints and alleviating reinforcement requirements.

Our recently published Transport Capacity Maps are designed to give an indication of the relative energy demand for private cars alongside loading on the electricity distribution network.

We hosted a successful and thought provoking training session on these maps on Wednesday 20th May 2020 and received positive endorsement and further interest in developing trial sites.

In addition we have set up an EV Working Group to stream line the application process for one off customers and larger EV charger installers to ensure the accelerating rate of applications is understandable and meets the growth in a sustainable and user friendly manner.

If you are developing a site with EV charging infrastructure and would be interested in a smart charging solution then please contact us to discuss options at **gettingconnectedupdates@spenergynetworks.co.uk**

Early data from Project Charge was also made available to produce a suite of Transport Capacity Maps which are now live on our website along with an information pack at **www.spenergynetworks.co.uk/electricvehicles**

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We are working with EV Charger installers, Local authorities and Car sale show rooms to ensure we understand their needs. We will publish the process and EV customer journey for this in future newsletter publications.

Part of this Drive to Decarbonisation is to look at innovative approaches such as working with Stirling Council and industrial scale EV Charger installers to connect the first set of chargers to lamppost in Scotland without any major additional distribution investment, using the existing network for the street lighting.

This innovative approach has allowed Stirling Council to accelerate their EV City roll out plans rapidly and at relatively low expense, using robust chargers that come with a ten-year guarantee and can accept all charger types, with free to use and on site charging as options.

This and other innovations demonstrate the SP Energy Networks are working at both the strategic and operational levels to ensure we serve our stakeholder and customer communities.

Heat

We are currently working on a detailed submission for an Ofgem Network Innovation Competition (NIC) project 'Re-Heat' which will address how electricity networks can facilitate the large-scale decarbonisation of heat.

This requires innovations in demand reduction, system flexibility and energy storage to help manage the greatly increased demands on the electricity system.

Uniquely, Re-Heat will demonstrate how to:

- Reduce or defer extensive network upgrades arising from increased peak demand from electrified heat.
- Better match electric heating to renewable generation; reducing network constraint payments and increasing the use of low carbon electricity.

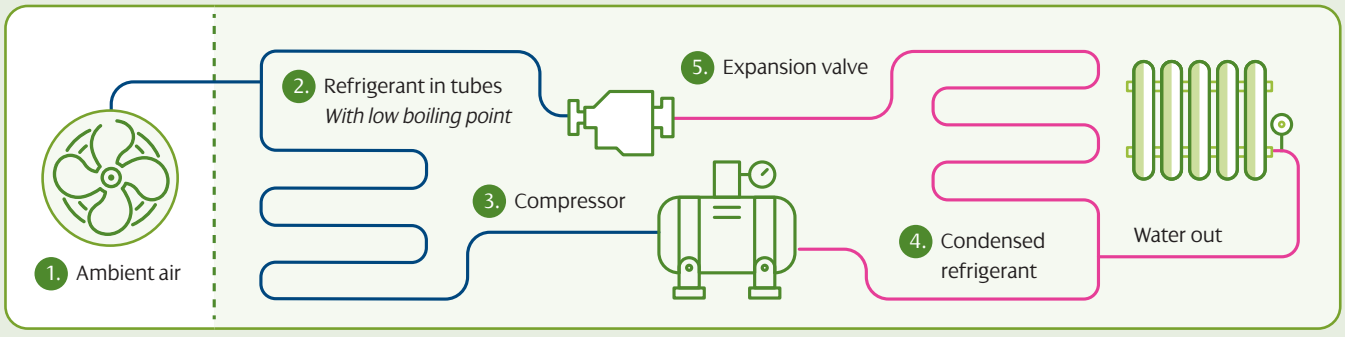
The primary focus of 'Re-heat' is off-gas grid heat as this carbon intensive sector is a priority for action for UK government and devolved governments. Therefore if you are a local authority within either of our license areas then we would be interested in hearing from you to discuss how this project could realise your ambitions.

Please contact us to discuss options if you would like involved in this project at **gettingconnectedupdates@spenergynetworks.co.uk**

The Scottish Government housing policy team have reached out to SP Energy Networks and the housebuilding community to determine how their proposed 2024 regulation deadline, of no fossil fuelled heating in new house builds, will affect the housing trade and our distribution network, a collaborative first in this area.

These discussions have explored the use of single home air sourced heat pumps, large community ground source heat pumps and the feasibility of the use of safe hydrogen into homes. The outputs of this and subsequent partnerships on the decarbonisation of heat in all homes will continue and the results will be shared to the wider stakeholder and customer community ensuring holistic community benefiting decisions can be made.

We will provide an update on this and our other innovations at our next Low Carbon Connections Conferences that we are hosting virtually on Tuesday 30th June.



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Our partners

Fife Council

Scottish Water – Trusted to serve Scotland

Scottish Natural Heritage – All of nature for all of Scotland

Fife College

SEPA – Scottish Environment Protection Agency

Scottish Enterprise Glasgow

Forth Rivers Trust

CSGN – Central Scotland Green Network – 2013 Central Scotland Green Network Forum – Delivering for Nature and People

Keep Scotland Beautiful

Community Partnerships

Through our ongoing regular partnerships we have agreed to extend our Community Energy Workshops to develop a Community Partnership Workshop, and we will look to host the first one at the later end of the summer 2020 period.

We would hope this to be an interactive face to face session with our community partners but this will be arranged according to official guidance as we move out of the current lockdown situation.

We have continued to share innovation knowledge on EV and active network management with our community partnerships notably as part of our Ynni Llyn partnership on the Llyn Peninsula in North Wales. In the coming months we will be identifying opportunities for new technologies in this area to alleviate areas of communication and network constraints. This will utilise shared learnings from other NIA funded innovation projects ongoing such as Energy Local.

We are expanding our stakeholder reach to include larger communities and whole towns and cities, with the support of national and local government.

One such community partnership is the Levenmouth Net Zero Town and Community Initiative in Fife, where a stellar body of key partners are working together to enliven and invigorate a community with high levels of degradation, unemployment and poverty through the design, build and use of renewable energy and community assets from its historical heavy industry and mining.

This is a long-term strategic approach with SP Energy Networks and the other key partners involved from the concept of the blueprint to ensure the master plan is achievable and can be supported throughout its lifecycle.

It is planned that this project will develop solar farms, hydrogen plant, harness existing and new wind turbines, look at refurbishing the old mill hydro plant, all with a view to support the fuel poor, acreage of hydroponic food growth, EV charging at the new railway stations and electrification of the railway itself. In addition this project will redevelop the 37 miles of river from Leven town to Loch Leven as a community and tourist leisure and wellbeing destination.

All of which will help the area to drive to net zero carbon while provided much need commerce and jobs for this area. SP Energy Networks are joined by other key partners in this far reaching project.

Policy updates

Following stakeholder feedback we will develop another step in our policy documentation process to offer customers the opportunity to comment on our policies prior to any updates published.

Please contact us if you have any specific comments on any policies you would like to see updated.

We have recently published an update to our EART-03-003 Technical specification for earthing and bonding at secondary substations.

This document clarifies the needs for earthing in a much more robust and comprehensive manner allowing our stakeholders to fully understand their obligations and needs.

Please contact us at **gettingconnectedupdates@spenergynetworks.co.uk** if you would like further clarification or training on this document.

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Innovation Projects

Our NIA funded Energy Local collaboration project is now in its operational phases within the area of Bethesda in North Wales.

In June we will be installing Visnet substation monitoring equipment within 3 substations in the Llanllechid area to understand current network characteristics on the low voltage network and how this may change as consumer behaviour consumption behaviour changes as part of the Energy Local community energy model.

This will also have great learning benefits for our internal project EvoLVe which is deploying LV monitoring equipment to increase visibility of our low voltage network in order for us to operationally manage this remotely and better understand the behaviour of our largest network asset.

Also we have two InnovateUK funded projects for the design of smart detailed energy systems ongoing which have now officially been kicked off and are in the work package planning stages.

REWIRE-NW based in Warrington and Liverpool Multi-Vector Energy Exchange are utilising SP Energy Network expertise in work packages such as network control and constraints management to complete bespoke yet replicable designs for new energy systems.

In Scotland, our ECOHUS partnership with Edinburgh University, CALA Homes and the ECOHUS foundation has a remit to build, monitor and analyse a new build ECOHUS three bedroom occupied home with an array of renewable and energy saving features that will then inform the house building community on home to mass produce affordable net zero homes for the future.

DSO/ Flexibility

We are exploring the DSO feasibility of large local programs with multiple stakeholders in our licence areas that will augment the learnings from our regional plans for Active Network Management in South West Scotland and North Wales.

Following the output of the E-Port Smart Energy Master Plan we are continuing to work with the industrial area of Ellesmere Port to identify opportunities for private sector investment and providing a nationally replicable model for delivery of multi-vector, low cost, low-carbon energy.

The next phase of the project will look to create a demonstrator of this model with the customers who operate in the area, which will see us deploy monitoring devices on our network and complete associated network design analysis for a number of scenarios. The data gathered would be used to develop a detailed network and control design and balancing of distributed generation connections with an associated control system bringing our DSO approach into business as usual.

We are working with Edinburgh University and Edinburgh City Council to optimise the use of the surplus renewable potential from Edinburgh Universities and Council buildings and assets for the benefit for public bodies such as the NHS and the local communities, looking at a holistic DSO approach could help to produce and use renewable energy in the source locations.

Bandeath Holdings and Stirling Council are another such innovative example for flexible / DSO working with the potential for geographically ring-fencing a large area to the west of Stirling with perhaps even a benefit to Stirling Castle.

We will continue to provide information on these projects as we progress through 2020.