



8-9 December 2020 | virtual (UK time)

draft agenda

Guest speakers include:

Matthew Billson, Deputy Director, Energy Innovation – Strategy & Portfolio, [Department for Business, Energy and Industrial Strategy \(BEIS\)](#)
 Carmen Gimeno, Secretary General, [GEODE](#)
 Kristian Ruby, Secretary General, [Eurelectric](#)
 Paul Clark, Vice Chair, [Decarbonisation of Heat Working Group](#)
 Eva Hennig, Head of Department Policy Issues, [Thüga](#), Germany
 Laura Sandys CBE, Non-Executive Director, [SGN](#) and [Energy System Catapult](#)
 Dr Mark Taylor, Deputy Director for Energy Innovation (SICE), [Department for Business, Energy and Industrial Strategy \(BEIS\)](#)
 Steve McMahon, Deputy Director, Electricity Distribution Network Price Controls and Cross Sector Policy, [OfGem](#)
 Audrey Gallacher, Deputy Chief Executive and Director of Policy, [Energy UK](#)
 Prof. Keith Bell, ScottishPower Chair in Smart Grids, [University of Strathclyde](#)
 Guy Newey, Director of Strategy and Performance, [Energy Systems Catapult](#)
 Dr Douglas Parr, Policy Director, [Greenpeace UK](#)
 Dr Peter Couch, CEO, [Joint Radio Company](#)
 Peter Smith, Director of Policy and Research, [National Energy Action](#)
 Maxine Frerk, Founder and Director, [Grid Edge Policy](#)
 Corin Taylor, Principal Consultant, [Decarbonised Gas Alliance](#)
 Dr Richard Dobson, Practice Manager – Data Systems, [Energy Systems Catapult](#)
 Juan Marco, Principal Director, [E.DSO](#)

Day one: Tuesday 8 December 2020

<p>10.00 – 11.30</p>	<p>10.00 – 10.05 Welcome to ENIC 2020 David Smith, Chief Executive, Energy Networks Association</p> <p>10.05 – 10.20 Ministerial address The role of innovation in achieving net zero The Rt Hon Kwasi Kwarteng MP, Minister of State and Minister for Business, Energy and Clean Growth</p>
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	<p>10.20 – 10.35 Keynote What are we looking for in future NIC and NIA projects? Steven McMahon, Deputy Director, Electricity Distribution Network Price Controls and Cross Sector Policy, OfGem</p> <p>10.35 – 10.50 The future direction of the UK's energy networks and the role of innovation Matthew Billson, Deputy Director, Energy Innovation – Strategy & Portfolio, Department for Business, Energy and Industrial Strategy (BEIS)</p> <p>10.50 – 11.30 Panel Enabling net zero: decarbonising the energy system</p> <ul style="list-style-type: none">• Open Networks and Gas Goes Green Project updates• Interconnectivity, sector coupling and building the smart energy systems of the future• Energy system transformation: what does this mean?• The energy system transition: who pays?• The role of the networks in transitioning to a net zero energy system <p>Moderator: Guy Newey, Director of Strategy and Performance, Energy Systems Catapult</p> <p>Panellists:</p> <p>Claire Dykta, Head of UK Strategy, National Grid</p> <p>Juan Marco, Principal Director, E.DSO</p> <p>Chris Train, Chair, Gas Goes Green</p> <p>Nigel Turvey, Western Power Distribution</p>
11.30 – 12.30	<p>Live exhibition stand session</p> <p>Featuring:</p> <ul style="list-style-type: none">• Q&A with projects leaders of projects on stands• Special chat rooms on hot topics at stands• Competition/scavenger hunt TBC



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<p>12.30 – 13.00</p>	<p>Lunch</p> <ul style="list-style-type: none"> • Keynote speaker chat rooms • Visit the conference networking lounge for informal networking 		
<p>Tracks:</p>	<p>Electricity Preparing networks for the EV mass market Host: Vicky Gilford, Stakeholder and Communications Manager, Scottish and Southern Electricity Networks</p>	<p>Gas Energy system transition: building the safety case Host: Richard Hynes-Cooper, Head of Innovation, Northern Gas Networks</p>	<p>Special session Open Networks Project Host: Ofgem</p>
<p>13.00 – 14.30</p>	<p>13.00 Probabilistic assessments in forecasting for network planning: focus on EV charging uncertainties This presentation is on probabilistic assessments in forecasting used for network planning with a particular focus on EV charging uncertainties. Just a few years before we expect to see a significant number of EVs on the road, the main headaches for network planners are the uncertainties involved in EV charging, such as whether they will be charged at home, work or en-route and at what capacities. These uncertainties can be better captured using probabilistic assessments as we do in our Reflect NIA project, providing useful cost and risk insights to network planners. Dr Christos Kaloudas, DSO Modelling and Forecasting Lead, Electricity North West</p>	<p>13.00 European perspectives: greening our gas networks Dr Hennig will talk you through some of the major hydrogen initiatives being undertaken by European gas networks, and the next steps on the horizon for scaling up the use of hydrogen across the continent. Eva Hennig, Head of Department Policy Issues, Thüga, Germany</p> <p>13.15 Hydrogen keynote The hydrogen transition: from pilot projects to large-scale decarbonisation Dr Taylor will share a high level view of the UK's hydrogen transition vision, our achievements so far and the role of innovation in delivering the solutions. Dr Mark Taylor, Deputy Director for Energy Innovation (SICE), Department for Business, Energy and Industrial Strategy (BEIS)</p>	<p>13.00 Live polling session Delivering tomorrow's electricity network: the Open Networks Project Quickfire updates on the five themes of work coming out of the ENA's Open Networks Project, and a chance to feed back on its 2021 direction in our live polling panel.</p> <ul style="list-style-type: none"> • Data and outputs: update from Open Networks and the Data Working Group • Whole energy system transformation • Flexibility and commercial evolution • Delivering Distribution System Operation (DSO) • Improving distribution connections for customers <p>Moderator: Ofgem</p>



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13.15 CHARGE, PACE and EV-UP

Nicol Gray, Senior Project Manager, Geoff Murphy, Lead Engineer, and Laura McArthur, Senior Innovation Engineer, **SP Energy Networks**

13.40 DC-Share and Take Charge: innovating for a cost effective EV charging infrastructure

DC Share is a £5.6 Million NIC project that is being delivered by Western Power Distribution, Ricardo, Turbo Power Systems, Electricity North West and Vectos. It will design and trial an innovative meshed DC network to balance the local distribution network and combine latent transformer capacity and utilise it for rapid car charging. We will be sharing an overview of the project as well as our progress to date.

Our innovative 'Take Charge' NIA project aims to make rapid charging at service stations quicker and easier for both service station operators and customers while saving tens of millions of pounds. It involves designing, testing and trialling a 'one size fits all' compact solution ensuring that service station customers can simultaneously charge their vehicles at peak times. Find out about the initial findings from the project including the work

13.30 H21: pioneering a UK Hydrogen network

H21 is a suite of pioneering gas industry projects led by Northern Gas Networks, focused on demonstrating the existing UK gas grid can be repurposed to carry 100% hydrogen, to meet the 2050 objectives. Before the vision of a hydrogen gas network can be fully realised, the critical safety-based evidence for such a conversion, upstream and downstream of the meter, must be provided. Without it, a credible government policy decision on decarbonisation of heat cannot be made.

Tim Harwood, Head of Programme Management and H21 Project Director, **Northern Gas Networks**

13.45 HyNTS: roadmap to hydrogen

Find out more about our hydrogen challenge, the work we have carried out looking at regional options, hydrogen deblending and building the future safety case. This session will give an overview of the next steps in our hydrogen journey and our broader hydrogen roadmap.

Tony Green, Project Director – Hydrogen and Tom Neal, Innovation Delivery Manager, **National Grid Gas Transmission**

14.00 The role of the Local Transmission System (LTS) in a net zero future

Speakers:

Sotiris Georgiopoulos, Head of Smart Grid Development, **UK Power Networks**

Mark Herring, Head of Code Change Delivery, **National Grid ESO**

Graham Campbell, Head of DSO, **SP Energy Networks**

13.30 Panel

What do you need from the future electricity grid?

- DSO/ESO coordination: how will it work?
- Opportunities for standardisation and opening up data to improve customer experience
- Working holistically across all energy vectors: how will this work?
- Barriers to participation in flexibility markets
- Role of networks in delivering net zero

Moderator:

Louise van Rensburg, Ofgem

Speakers:

Dr Richard Dobson, Practice Manager – Data Systems, **Energy Systems Catapult**

Carmen Gimeno, Secretary General, **GEODE**



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	<p>on site selection, system capacity and design. Ricky Duke, Innovation and Low Carbon Networks Engineer, Western Power Distribution and Neil Murdoch, Engineering Manager, GHD</p> <p>14.00 Electric Vehicles: preparing networks for EV ready roads Projecting highly localised EV uptake scenarios and addressing regional challenges through innovation, looking at the E Tourism and Local Electric Vehicle Energy Loop (LEVEL) projects. Richard Hartshorn, EV Readiness Manager and Kate Jones, Innovation Project Manager, Scottish and Southern Electricity Networks</p> <p>14.20 End of session</p>	<p>The LTS Futures programme is designed to develop the safety, technical and practical evidence to support the use of hydrogen in the LTS. The research work proposed, underpins many aspects of the decarbonised pathway. The work will:</p> <ul style="list-style-type: none">• Will provide evidence informing network safety to determine the suitability of LTS network assets for hydrogen• Provide the technical input to ensure the decarbonisation of industrial clusters can be delivered• Define the role of LTS in system transformation and the impact on hydrogen roll-out and the green recovery <p>Nancy Thomson, Energy Futures Project Manager, SGN</p> <p>14.15 Positive results from the UK's first grid-injected hydrogen pilot: HyDeploy HyDeploy is a pioneering hydrogen energy project designed to help reduce UK CO₂ emissions and reach the Government's net zero target for 2050. As the first ever live demonstration of hydrogen in homes, HyDeploy aims to prove that blending up to 20% volume of hydrogen with natural gas is a safe and greener alternative to the gas we use now. It is providing evidence on how customers do not have to change their cooking or heating appliances to take the blend, which means less disruption and cost for them. It is also</p>	<p>Sotiris Georgiopoulos, Head of Smart Grid Development, UK Power Networks Mark Herring, Head of Code Change Delivery, National Grid ESO Graham Campbell, Head of DSO, SP Energy Networks</p> <p>14.30 End of session</p>
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		<p>confirming initial findings that customers don't notice any difference when using the hydrogen blend. Sikander Mahmood, Project Manager – Future Networks, Cadent</p> <p>14.30 End of session</p>	
14.30 – 15.30	<p>Live exhibition stand session</p> <p>15.00 Group chats on topical issues</p> <ul style="list-style-type: none"> A. Emobility: what do the networks need to do to enable the electrification of transport? (video chat) Host: Randolph Brazier, Head of Innovation, Energy Networks Association (ENA) B. The hydrogen transition: how are we building confidence in the safety case? (video chat) Proposed host: Nancy Thomson, Energy Futures Project Manager, SGN C. Funding operational efficiency innovations (text chat) Host: John Richardson, Head of Innovation, SGN D. Innovation in ED2 (text chat) Ian Cooper, Innovation Programme Manager, UK Power Networks 		
Tracks:	<p>Electricity Accelerating flexibility markets Host: National Grid ESO</p>	<p>Gas Facilitating the energy system transition Chair: Matt Hindle, Head of Gas, Energy Networks Association</p>	<p>Special session Game changer technologies</p>
15.30 – 17.00	<p>15.30 TRANSITION: tailoring flexibility to the needs of the market DNO led flexibility market development can be driven by a combination of network needs, technology growth/availability and socio-political pressures. This is resulting in geographical diversity in the maturity of markets across both local and national levels. This is a natural process in market progression and is the reason products</p>	<p>15.30 H100 Fife SGN</p> <p>15.40 Hybrid-Hydrogen (HyHy): decarbonisation of heat, power and transport The hybrid hydrogen project explores how a 'hybrid first' strategy can decarbonise heat in cities faster than alternatives and how hydrogen can be deployed away from the main focus areas in the north of England. The</p>	<p>15.30 Tech showcase: New solutions for future energy systems Global innovators have just 5 minutes each to share their latest solutions, how they work and the benefits they can bring to energy networks, in this lively fast-paced session. Schweitzer Engineering Laboratories CGI</p>



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and prices of a single good/service may vary within a given area (local, national, international).
Brian Wann, Innovation Project Manager and
Charlie Edwards, Commercial Manager,
Scottish and Southern Energy Networks

15.45 **FUSION**
Michael Green, **SP Energy Networks**

16.00 **Power Potential project for reactive power service provision from DERs**
Power Potential is a TSO/DSO innovation project between National Grid ESO and UK Power Networks, enabling distributed energy resources (DERs) connected to the distribution grid to provide reactive power transmission services to the ESO. It focuses on the dynamic voltage support that can be obtained from the DERs and the associated provision of a 'reactive power service' to help manage transmission voltage constraints. The core of the project is a new IT control platform which facilitates the communication and control of DERs connected to networks, supporting the technical and market solution.
We will be sharing the design of the project trials to validate both the technical and commercial framework.

project explored the production of hydrogen, with the carbon dioxide being transported by ship for use or storage.
Centred on Cardiff, the project compliments the South Wales Industrial Cluster, with the results providing a decarbonisation solution for heat, industry, power generation and heavy transport. It examined the optimal solution for hydrogen production capacity and storage as well as comparing hydrogen solutions to the mass deployment of heat pumps.
As a bonus, the project has generated the concept of hydrogen 'daughter' locations, such as England's hydrogen Riviera, linking deep water ports by tankers, bringing hydrogen to parts of the country earlier than planned.
Chris Clarke, Energy Strategy Director,
Wales & West Utilities

15.50 **A cleaner, greener gas network: OptiNet**
The OptiNet project is a collaboration between Cadent, Wales & West Utilities and PassivSystems. OptiNet aims to investigate ways of decarbonising the UK's gas networks by introducing more green gases. The project will review several solutions to create capacity in the network to allow additional biomethane plants or other distributed gas generation to connect and flow, even in the lowest demand periods.

S&C

*Speakers to be from a range of start-ups, SMEs and market leaders that have a new product that has the potential to improve the economics or environmental outcomes for the networks.

*Pre-recorded 5-minute presentations introduced by a host, live text-based Q&A with all speakers and the moderator throughout the session



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Dr Biljana Stojkovska,
Innovation Technical Manager,
National Grid ESO

16.15 Closer to real time procurement: initial findings of Auction Trial Phase 2

The weekly auction trial is a two-year innovation project which is designed to test the hypothesis that closer to real-time procurement will lower the barrier for non-traditional participants, increase market liquidity, and reduce overall balancing costs via weekly pay-as-clear auctions. This presentation will outline the project brief, comparisons between innovative weekly frequency response market and traditional monthly market, ESO's learning points so far and the plan for next steps.

Yingyi Wang,
Balancing Markets Development Officer,
National Grid ESO

16.25 Distributed ReStart: demonstration phase, shedding light on our findings and setting the scene for delivery

We've now passed our halfway point and are entering the 'demonstration phase' on the Distributed ReStart project. Learn about our progress and findings on:

- Designing the technical, organisational, systems and

James Whitmore,
Innovation Manager – Future Networks,
Cadent

16.00 Tools of Engagement: aiding regional authorities in the journey to net zero

- A toolkit and simplified version of Pathfinder Plus, our whole energy systems model
- Enables Local Area Energy Planning to meet any net zero target
- Uses real profiles of energy consumption and electricity generation
- Provides a 'fair share' of national energy assets to build upon with local supply and demand options
- Supports development of a low regrets action pathway for heat, power and transport
- Gives total average household energy bill and estimated blackout hours for each scenario modelled

Oliver Lancaster, Future of Energy Manager,
Wales & West Utilities

16.10 Emissions monitoring and reduction

Find out more about the work we have been carrying out to more effectively monitor and reduce the emissions from our day-to-day operational activities. An overview of two emissions related innovation projects: Monitoring of Real-time Fugitive Emissions (MoRFE), which looks at developing a



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- telecommunications solutions to be tested in live trials
 - Reviewing the range of codes, policies, and standards
 - Learning about the development and implementation of the automated Distributed Restart Zone Controller
- Pete Chandler,
Project Lead, Distributed ReStart,
[National Grid ESO](#)

16.45 Speed panel

Accelerating flexibility markets: next steps

- What can we learn from these innovation projects that can be taken into future programmes?
- New initiatives that require planning in the near to mid-term
- Unanswered questions around how flexibility markets will be brought to maturity in the UK

Moderator: Carolina Tortora, Head of Digital Transformation and Innovation Strategy, [National Grid ESO](#)

Panellists include:

Prof. Keith Bell, ScottishPower Chair in Smart Grids, [University of Strathclyde](#)
Audrey Gallacher, Deputy Chief Executive and Director of Policy, [Energy UK](#)

Sotiris Georgiopoulos, Head of Smart Grid Development, [UK Power Networks](#)

cost-effective continuous fugitive emission detection system and CH4RGE, a project that looks at reducing methane emissions from rotating gas equipment.

Steve Johnstone, Neil Billingham and Matthew Williams,
[National Grid Gas Transmission](#) and [NPL](#)

16.20 Panel

What are the next steps in facilitating the energy system transition?

- The decarbonisation of heavy vehicles: what needs to happen next?
- Industrial clusters: how can the networks assist in scaling up decarbonisation efforts?
- What will the future of heat look like in Britain and how will we get there?

Moderator: Matt Hindle, Head of Gas, [Energy Networks Association](#)

Panellists include:

Chris Clarke, Energy Strategy Director, [Wales & West Utilities](#)

Tim Harwood, Head of Programme Management and H21 Director, [Northern Gas Networks](#)

Stuart Easterbrook, Future Gas Strategy Manager, [Cadent](#)

Corin Taylor, Principal Consultant, [Decarbonised Gas Alliance](#)

Angus McIntosh, Director of Energy Futures, [SGN](#)



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Day two: Wednesday 9 December 2020

10.00 – 11.30	<p>10.00 Welcome back to ENIC 2020 David Smith, Chief Executive, Energy Networks Association</p> <p>10.05 – 10.20 European keynote The future energy system: a European vision for 2050 Ditte Juul Jørgensen, Director-General for Energy, European Commission</p> <p>10.20 – 10.35 Shaping an inclusive energy transition Kristian Ruby, Secretary General, Eurelectric</p> <p>10.35 – 10.50 Outside the box speaker Our view of the future and how innovation will make it happen</p> <p>10.50 – 11.30 Panel Which international net zero projects can we learn from?</p> <ul style="list-style-type: none">• Results from the ELEGANCY case studies which bring in hydrogen from natural gas combined with CCS• New York's Reforming the Energy Vision Programme• The Netherlands' hydrogen programme: lessons learnt and future plans• What new projects we do need to fully decarbonise energy systems by 2050? <p>Moderator: Dr Peter Couch, CEO, Joint Radio Company</p> <p>Speakers include:</p> <p>Dr Gunhild Reigstad, Research Manager, SINTEF, Germany</p> <p>Noé van, Hulst Hydrogen Envoy, Ministry of Economic Affairs & Climate Policy of the Netherlands</p> <p>Andre Wellington, Distributed Generation Ombudsman, Consolidated Edison</p>
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	Neil Hughes, Electric Power Research Institute (EPRI)		
11.30 – 12.30	Live exhibition stand session Featuring: <ul style="list-style-type: none"> • Q&A with projects leaders of projects on stands • Special chat rooms on hot topics at stands • Competition/scavenger hunt TBC 12.00 – 12.30 Topic TBC (video chat) Kelvatek		
12.30 – 13.00	Lunch <ul style="list-style-type: none"> • Keynote speaker chat rooms • Visit the conference networking lounge for informal networking 		
Tracks :	Electricity Communities Host: TBC	Gas Optimisation of assets Host: Tom Neal, Innovation Delivery Manager, National Grid Gas Transmission	Special session Gas Goes Green Chair: Dr Thomas Koller, Programme Lead, Gas Goes Green, Energy Networks Association
	13.00 Distributed intelligence on the low voltage electricity network: system and community benefits OpenLV is a three-and-a-half-year project with a £5.5 million budget, funded through the Network Innovation Competition. The project, managed by EA Technology on behalf of Western Power Distribution, has investigated the benefit of deploying a distributed intelligence platform on the low voltage distribution network, testing the LV-CAP™ technologies ability to:	13.00 Fast followers quickfire round Technologies tested by the networks through the NIC or NIA projects, which can be readily implemented by other network operators. <ul style="list-style-type: none"> • GRAID: robots in pipes Dave Hardman, Innovation Specialist, and Josh Blake, National Grid Gas Transmission • Pressure Control and Management: demand response, network monitoring and automation 	13.00 Gas Goes Green: purpose and progress Chris Train, Chair, Gas Goes Green 13.10 The Hydrogen Transformation Plan The Hydrogen Plan report: overview and key recommendations. Dr Thomas Koller, Programme Lead, Gas Goes Green, Energy Networks Association



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- Monitor the low voltage loads on cables and transformers in substations
- Provide network operators with accurate information about the state of the network
- Perform calculations locally
- Send out alerts when pre-set thresholds are met
- Reconfigure or directly influence the local low voltage network

Further, OpenLV has investigated the appetite among community organisations, businesses and academics to receive low voltage network data and to use it if it is made available.

This presentation will cover the network benefits of distributed intelligence and summarise the wider societal appetite and positive outcomes of making local data available to all.

Sam Rossi Ashton, Innovation and Low Carbon Networks Engineer,
Western Power Distribution

13.15 Boston Spa Energy Efficiency Trial: using smart meters to reduce customers' energy consumption

Conservation voltage reduction is the concept of reducing customers' supply voltage to lower their energy consumption. Generally, customers' supply voltage on low voltage distribution networks tends to be high and previous innovation projects have

Mark Skerritt, Innovation Project Manager, **SGN**

- **Leakvision: sensor system for leakage detection**
Richard Hynes-Cooper, Head of Innovation, **Northern Gas Networks**
- **Transforming the gas mains replacement process: Remote Live Mains Insertion (RLMI)**
Vishal Dhanji, Innovation Project Manager – West Midlands, **Cadent** and
Richard Ditte, Senior Development Manager, **Steve Vick International**
- **Robotic and Roadwork Excavation System (RRES)**
SGN
- **Water sector innovations**
Andrea Gysin, Head of Research, Development and Innovation, Thames Water

13.20 Panel

How do networks deliver the hydrogen transition?

What else do we need to do on the issues raised in the Hydrogen Transformation Plan?

Moderator:

Laura Sandys CBE, Non-Executive Director, **SGN** and **Energy System Catapult**

Speakers:

Greg Dodd, Head of Strategic Planning, **Northern Gas Networks**

Antony Green, Project Director – Hydrogen, **National Grid Gas Transmission**

Angus McIntosh, Director of Energy Futures, **SGN**

Dr Angela Needle, Director of Strategy, **Cadent**

Dr Douglas Parr, Policy Director, **Greenpeace UK**

Chris Clarke, Energy Strategy Director, **Wales & West Utilities**

14:00 Gas Goes Green in 2021

- ENA programme for 2021: have your say on the plans for our programme of work



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proven that by reducing this voltage household energy consumption can be reduced. The Boston Spa Energy Efficiency Trial (BEET) will develop and trial a control system to take smart meter voltage measurements and use these to determine an optimum target voltage set point to be applied at the 11kV busbars at three primary substations in the trial area. The aim is to provide customers with a lower supply voltage than they currently receive. The innovation is that smart meter voltage measurements will be used as part of the control system and no new primary hardware such as voltage regulators or on-load tap changers at secondary substations are required.

Mark Callum, Smartgrid Development Engineer, and Francis Shillitoe, Project Manager,
[Northern Powergrid](#)

13.30 Panel

Protecting vulnerable customers as we decarbonise electricity networks

- How to go about protecting vulnerable consumers and customers
- Balancing the cost against the liability of providing a reliable system
- How do we make the future energy system fair?

- How to get involved: opportunities for service and technology providers

Thomas Koller,
Programme Lead, Gas Goes Green,
[Energy Networks Association](#)



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Panellists include:

Dr Elizabeth Blakelock, Principal Policy Manager – Energy Supplier Monitoring and Performance, [Citizens Advice](#)

Dr Giulia Privitera, Social Sustainability Strategy and Programme Manager, [UK Power Networks](#)

Cllr Kevin Frea, Chair, Climate Energy Network, Local Government Association
Yiango Mavrocostanti, Innovation Team Manager, Western Power Distribution

New technologies in the real world

13.50 Fast followers quickfire round

Technologies tested by the networks through the NIC or NIA projects, which can be readily implemented by other network operators.

- [Smart Street IRM: the road to BAU](#)
Andy Howard, Innovation Programme Manager, [Electricity North West](#)
- [Low Voltage: Underground Fault Location Technologies \(LV-UFLT\)](#)
Kevin Dennis, Innovation Project Manager
[Scottish and Southern Energy Networks](#)
- [Universal bushing project: successful reduction of spares holding](#)
Gordon Wilson, Senior Innovation Engineer,
[National Grid Electricity Transmission](#)
- [iIdentify](#)
Michael Alexander, [SP Energy Networks](#)



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	<ul style="list-style-type: none"> Autodesign: LV Connections Self-Service Tool Clare Roberts, Design Engineer, Northern Powergrid Load Blinding Relays Colin Scoble, Senior Protection Engineer, UK Power Networks 	
14.30 – 15.30	<p>Live exhibition stand session</p> <p>15.00 Group chats:</p> <p>A. Power electronics: how they are being applied (video chat) Ian Cooper, Innovation Lead, UK Power Networks Luca Grella, Innovation Project Lead, UK Power Networks Michael Eves, Senior Innovation Engineer and LV Engine Project Manager, SP Energy Networks (TBC) Iain Miller, Head of Innovation, Northern Powergrid (TBC)</p> <p>B. Flexibility and stability for islands and other remote communities Alex Howison, Flexible Solutions Manager, Scottish and Southern Energy Networks</p>	

Tracks :	Electricity Smarter asset management Host: Dr Geraldine Paterson, Innovation Manager, Electricity North West	Gas Consumer vulnerability Chair: Matt Hindle, Head of Gas, Energy Networks Association	Special session Decarbonisation of heat
15.30 – 17.00	<p>15.30 Silent Power: hybrid EV generator Silent Power is a mobile electrical energy storage system that is used to restore domestic customer supplies in the event of a network fault or maintain customer supplies during a planned power cut. The system operates in silence and produces no particulate contamination. It can also be used to create a mobile microgrid, absorbing</p>	<p>15.30 DoorStop: facial recognition technology to improve the safety of customers and colleagues This project will augment the traditional ID card with facial recognition technology, linked to the organisation's website, without the need for the customer to download additional apps or</p>	<p>15.30 Heat: electrification and zero carbon Heat strategy learning and projects: Cold Start, Heat Street, HyCompact and Communiheat. Zain Habib, Innovation Programme Manager, Ashita Anand, Innovation Project Lead, Rona Mitchell, Innovation Project Lead and Jack McKellar, Innovation Project Lead, UK Power Networks</p>



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local generation and supporting local demand. Northern Powergrid is currently trialling three of these systems in its operating area.

Ross McFarlane, Innovation Project Manager,
Northern Powergrid

15.45 Sentinel: the learning so far

The Sentinel presentation will cover a brief description of the project aims, the technologies employed/trialled and the progress to date. It will explain the end to end process for different fault types and highlight the challenges and solutions we have encountered and what the next steps are for the project.

Kieran Bailey, Innovation Engineer,
Electricity North West

16.00 Optimised Infra-Red Image technology Systems (OsIRIS)

This project quantified the uncertainty in infrared measurements in substation environments using an ISO compliant methodology. This will help in identifying a threshold at which temperature triggers should be set to avoid false readings and alarms when using infrared imaging as part of asset management processes.

Oliver Cwikowski, Senior Innovation Engineer,
National Grid Electricity Transmission

software. The engineer's face will be validated against a database of known staff to identify them and the organisation they work for, or conversely flag to the customer that the caller could not be identified.

It is anticipated that for most customers this facial recognition system will be an improvement and for customers with visual impairments DoorStop will also provide voice recognition technology.
Steve Dacre, Customer Experience Development Manager,
Northern Gas Networks

15.45 Live Service Transfer SGN

16.00 StreetScore: improving safety and accessibility of streetworks

In order to make our network net zero ready by 2035, we will need to continue replacing our metallic assets at a rate of around 500km a year.

At the same time, our customers, through age and illnesses, are increasingly vulnerable and streetworks are becoming a major challenge for some to negotiate.

StreetScore takes looks to provide tools to risk assess sites and score streetworks designs, to address:

15.45 4D Heat: can flexible domestic electric heating help reduce wind curtailment?

By analysing an off-gas grid area in Skye and extrapolating to off-gas grid Scotland, 4D Heat explores the ability of heat flexibility to absorb wind sdpower that would otherwise have been curtailed due to England-Scotland transmission constraints. 4D Heat takes a whole system view and all optimisation and analyses were subject to the constraint of not increasing costs to the Electricity System Operator, Distribution Grid Operator or end consumer. The project identified that up to 540GWh (9%) of otherwise curtailed wind could be used by domestic heating across off-gas grid Scotland in 2030, saving £24m per year in wind constraint payments and delivering a further £2m per year in environmental and social benefits.

Matthew Myers, Senior Analyst, **Delta-EE**

16.00 Panel

The decarbonisation of heat: cross-vector solutions

- The hydrogen transition: progress update
- Views on the state of heat in 2050: What percentages do we expect to be covered by hydrogen, biomethane, electrification and heat networks?
- Ensuring a coordinated approach to the decarbonisation of heat across the UK



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16.15 Fault location excellence: keeping the lights on as we move towards next zero
Peter Lang, Senior Technology Transfer Engineer, Kelvin Lee, Innovation Engineer and Chino Atako, Senior Asset Engineer, **UK Power Networks**

16.30 LV Engine: the journey of developing the detailed design of a smart transformer
LV Engine is deploying a novel smart transformer onto UK distribution networks. This presentation will share the journey of the detailed design of the smart transformer. This will cover topics such as protection, cooling and size considerations.
Ali Kazerooni, LV Engine Technical Lead and Michael Eves, Senior Innovation Engineer and LV Engine Project Manager, **SP Energy Networks**

- The public's ability to transit within streetworks affected areas with acceptable or no challenge
- Additional risks associated with streetworks (excavation, trip, noise etc.)
- Streetworks planning and actioning optimisation for both the public and the operators

Nigel Winnan,
Customer and Social Obligations Manager, **Wales & West Utilities**

16.15 Panel
Taking customers in vulnerable situations on our net zero journey

- What is a customer in a vulnerable situation?
- Ensuring customers are not negatively impacted as a result of the energy systems transition

Moderator: Matt Hindle, Head of Gas, **Energy Networks Association**

Peter Smith, Director of Policy and Research, **National Energy Action**
Nigel Winnan,
Customer and Social Obligations Manager, **Wales & West Utilities**
Jo Giles, Customer Safeguarding Manager, **Cadent**

Senior Representative, Ofgem
Matthew Rhodes, Energy Capital

- Policy and regulatory frameworks needed to support 2050 goals

Maxine Frerk, Founder and Director, **Grid Edge Policy** (possibly moderator, TBC)
Paul Clark, Vice Chair, **Decarbonisation of Heat Working Group**
Zain Habib, Innovation Programme Manager, **UK Power Networks**
Tim Harwood, Head of Programme Management and H21 Project Director, **Northern Gas Networks**
Sikander Mahmood, Project Manager – **Future Networks, Cadent**

Whole energy system decarbonisation

16.30 Zero 2050

We will talk you through the South Wales Zero 2050 project and the approach taken to developing plausible decarbonisation pathways for the whole energy system in South Wales. You will hear about the emerging findings from the analysis, highlighting uncertainties that we need to consider as we move to a zero carbon future. We will also explore how we can learn from South Wales for elsewhere in Great Britain.
Ann Cousins, Associate, **Arup**

16.45 Multi Energy Vector Modelling: investigating the impact of decarbonisation
In response to the pressing environmental concerns, a wide range of net zero carbon



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draft agenda

		<p>emissions pathways are being proposed and periodically updated. Catering for these uncertain pathways in a cost-effective manner is a grand challenge, which will require a whole system perspective to plan for investments in critical infrastructures to support coupling between multiple energy vectors and sectors. This project aims to develop a multi-energy methodology and tool capable to quantify the energy infrastructure impacts and requirements of various future multi-energy decarbonisation pathways. A high level overview of the methodology will be presented, including key demand models for electricity, heating, gas, biogas, hydrogen and transport. The results, based on the context of Greater Manchester, will shed light on how different energy futures can have diverse effects on peak energy use and the associated requirements for network capacity and other investments in infrastructures across the area.</p> <p>Linwei Chen, Innovation Engineer, National Grid Electricity Transmission Dr Asad Asfaq, Research Associate, University of Manchester Dr Eduardo Alejandro Martínez Ceseña, Academic Fellow, University of Manchester</p>
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