

Making a Difference

Part Two: Stakeholder engagement outcomes and impacts

Ofgem Electricity Distribution Stakeholder Engagement
and Consumer Vulnerability Incentive Scheme 2021/22



The Institute of
Customer Service
UK Customer Satisfaction
Awards 2021 WINNER



85%

score in our Accountability
Stakeholder Engagement
Audit – top 10% of
companies assessed
globally



Glossary of terms

AI	Artificial Intelligence
ANM	Active Network Management
BAU	Business as usual
BEIS	Department of Business, Energy and Industry Strategy
CO ₂	Carbon Dioxide
ConnectMore	Interactive map relating to electrical network within SP Manweb Licence Area
CRM	Customer Relationship Management system
DFES	Distribution Future Energy Scenarios
DNO	Distribution Network Operator
DSO	Distribution System Operator
ENA	Energy Networks Association
EVs	Electric Vehicles
GCC	Glasgow City Council
GHA	Glasgow Housing Association
GW	Gigawatt
HV	High Voltage
LAs	Local Authorities
LCT	Low Carbon Technologies
LEP	Local Enterprise Partnerships
LV	Low Voltage
MVA _r	Mega Volt Amps (reactive)
MW	Megawatt
NAVI	Network Analyse & View
Project PACE	A trial to identify cost-effective public EV charger infrastructure (included in 2020/21 submission)
RIIO-ED1	(Revenue = Incentives + Innovation + Outputs) – Electricity Distribution 1
RIIO-ED2	(Revenue = Incentives + Innovation + Outputs) – Electricity Distribution 2
SDG	Sustainable Development Goals
SPD	SP Distribution Licence Area (Scotland)
SPEN	SP Energy Networks
SPM	SP Manweb Licence Area (England and Wales)
SROI	Social Return on Investment
tCO ₂ e	Tonnes of Carbon Dioxide
ZUoS	Provides technology and consultancy solutions for Smart Local Energy Systems

This is Part Two of our submission to Ofgem’s Stakeholder Engagement Incentive for regulatory year 2021/2022.

Ofgem’s annual Stakeholder and Consumer Vulnerability Incentive encourages Distribution Network Operators (DNOs) to: *‘engage proactively with stakeholders in order to anticipate their needs and deliver a consumer focused, socially responsible and sustainable energy service.’*

Our submission is in three parts:

Part One – Our strategy

Introduces our Stakeholder Engagement and Consumer Vulnerability Strategy, with evidence that we meet Ofgem’s minimum requirements.

Part Two – Stakeholder engagement outcomes and impacts




Details the actions we have taken to meet the needs, preferences and priorities of customers and stakeholders identified through extensive engagement.

Part Three – Supporting vulnerable customers

Details key activities we have delivered to address consumer vulnerability issues and the outcomes achieved during this regulatory year.

Initiatives key

We use our ‘Planned, Developing and Embedded’ (PDE) model to track the stage of our all our initiatives, from the planned introductory phase, to becoming fully embedded within our business and BAU.

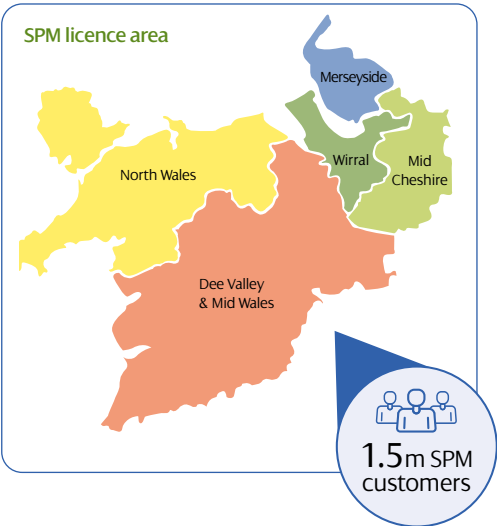
Planned		A project in the planning phase, defining the purpose, desired outcome and associated impact on stakeholders.
Developing		The project has been implemented into the business. Continual monitoring of KPIs to ensure project is on track to achieve desired outcomes.
Embedded		The project has reached maturity as a new initiative within the business and adopted as business as usual.

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About us

SP Energy Networks is the Distribution Network Operator that delivers electricity to homes and businesses in Central and Southern Scotland, Merseyside, Cheshire, North Wales and North Shropshire. We are the only network operator to work across three countries – Scotland, England, and Wales. We operate in **three of the UK’s largest cities (Liverpool, Glasgow and Edinburgh) accounting for 1.6m (43%) of our customers**, as well as three significant rural areas (North Wales, Scottish Borders and Dumfries & Galloway).





Introduction from Scott Mathieson

Our Network Planning and Regulation Director



Stakeholder engagement remains at the heart of everything we do. It is the responsibility of everyone across our business to engage in a consistent way, aligning to our business strategy and ensuring we are focused on the topics most important to our customers and stakeholders.

This is a critical time for the Net Zero transition and the country's progression towards a green economic recovery. Taking the right action now can unlock significant economic benefits on the path to Net Zero – incentivising private investment, creating jobs, boosting our domestic supply chain, and ensuring that no communities are left behind. With inflation reaching a 30-year high and the price of household bills rising significantly, our communities need our support now more than ever before. We've established our Just Transition Strategy to help support current and future customers, ensuring no one is left behind. As a network provider, we have a critical role to play in helping Government reach its Net Zero targets and to support our communities through this transition and beyond.

Our ongoing commitment to Stakeholder Engagement

Tracy Joyce, Head of Stakeholder Engagement and Communications



Achieving Net Zero requires big changes in how we operate as a business. It's crucial we adopt the best approaches to engage with our stakeholders in a meaningful way to facilitate the change that is needed for this transition.

To complement our engagement efforts and focus on delivering value for our stakeholders, we undertake an independent assessment of our stakeholder engagement activity and performance with AccountAbility, the owners of the global standard for stakeholder engagement. This year, we achieved a score of 85% (Advanced), placing us in the highest categorisation possible and in the top 10% of companies assessed globally – a huge achievement.

While the COVID-19 pandemic brought challenges unlike any we've seen before, I am extremely proud of how our teams responded to this crisis and our absolute commitment to deliver high quality stakeholder engagement. We take a structured and methodical approach to engagement, adopting and learning from feedback every day and implementing change into our business to deliver a service that those we impact most, both need and want.

Through our new hybrid engagement model – introduced following learnings from COVID-19 – we've been able to carry out more frequent engagements with stakeholders across a wider geographical area, with a particular focus on those who are harder to reach. We've worked closely with national governments and local authorities to help deliver their plans for the future and to meet the challenges of the low carbon revolution.

Within this submission, we've highlighted some of the key outcomes delivered in the past 12 months through targeted engagement, going over and above business as usual.

Summary of initiatives

Strategic Objective	Initiative/Project	Project stage	SROI (Net benefit for every £1 spent)
Develop a network that's ready for Net Zero £39.4m* of customer value	Decarb of Transport	Embedded	£9.08
	Decarb of Heat	Embedded	Various
	Flexibility Services	Developing	Various
	Low Carbon Calculator	Embedded	£10.45
	ANM	Embedded	£5.43
Be the trusted partners of our customers, communities and stakeholders £64.1m* of customer value	Flexible Tower	Developing	£1.27
	Re-Heat	Planned and Developing	£3.02
	Community Energy	Embedded	£6.82
	Green Recovery	Developing	£6.01
	Hydrogen Village	Planned	Joint
	PD Hero	Developing	£7.57
Ready our business for a digital and sustainable future £8.5m* of customer value	Digital Technologies	Developing	Various
	NAVI System	Embedded	£10.11
	Our Carbon Footprint	Embedded	Various
	Net Zero Workforce	Embedded	Various

*Customer Value is 'Total Profit Value' derived from SROI measurement of selected projects only.

Stakeholder priorities

Strategic Goals



Develop a network that's ready for Net Zero

Our Customer and Stakeholder Priorities

- Develop the network of the future
- Ensure a safe and reliable electricity supply
- Provide timely and efficient connections



Be a trusted partner for our customers, communities and stakeholders

Our Customer and Stakeholder Priorities

- Delivering excellent satisfaction and enhanced services for all customers
- Support vulnerable customers and communities to ensure no-one is left behind
- Work with our communities to facilitate the energy system transition



Ready our business for a digital and sustainable future

Our Customer and Stakeholder Priorities

- Deliver an environmentally sustainable network
- Build a Net Zero workforce
- Embed digitalisation and unlock the value of data

Improving resilience in our local communities

Storm Arwen was the worst storm in recent years, described as a 1-in-40 year event. Across all our districts, 207,000 homes were affected in total with 2,887 households off supply for more than three days and 146 for more than six days. The extent of the damage and the length of time in reconnecting customers led to extensive questioning of the approach taken by all DNOs.

What we did:

We recruited former Energy Minister, The Rt. Hon Charles Hendry to carry out an independent review of the lessons which can be learned for rural areas. The report also focuses on what needs to be done to deliver a more resilient network, especially as we move to a more decarbonised energy system with greater reliance on electricity.

- ✓ **Out of all the DNOs, we were the only company to commission an independent review.**
- ✓ Carried out a programme of extensive engagement in the process of compiling information for his report.
- ✓ 87 letters sent to all impacted MPs/MSPs to submit written evidence and invited to participate in 1-2-1 sessions at the House of Commons, Westminster or the Senedd.
- ✓ Engaged with 170 stakeholders, including CEOs of all impacted Local Authorities and Chairs of the Local Resilience Forums and Partnerships to provide evidence.
- ✓ Two large online hearings held to discuss views on Storm Arwen and the response from SPEN in more detail, with 37 stakeholders across SPD and SPM in attendance.
- ✓ We will share the results of this report widely for our customers, stakeholders and wider industry to access.

Measuring impact



Everything we do as a business is not only funded by our customers, but is driven by our stakeholders and has the opportunity to make a positive impact on the people we serve, our communities and the environment. Our continuous engagement with customers and stakeholders helps us learn about their needs and to uncover opportunities for impact and suggestions for improvement. In most cases, however, there are many different avenues to address their needs and to realise the opportunities they help us uncover; we need a consistent, robust and transparent approach to make the right choices and deliver maximum value to our customers' and stakeholders'. Our ambition to address this challenge led us on a trailblazing path to introduce our Social

Return on Investment methodology. Our SROI model has been embedded in the business for five years, and laid the foundation of our efforts in leading the industry towards a unified approach to measuring value, a project we completed last year. The success of this model was recognised through winning the 'Best Return on Customer Service Investment Award' at the 2021 UK Customer Satisfaction Awards, demonstrating our commitment to develop a credible way of calculating and delivering social value across all of our business activities. The SROI method allows us to quantify the financial, social and wellbeing benefits received by society as a result of an action we take, and compare these to the costs involved.

We use this method in two ways:



To make decisions: Once we have identified a customer or stakeholder need through our engagement, we work with them and our subject matter experts to define different options for how this could be addressed. Once a set of feasible and desirable options have been firmed up, we put each of these through the SROI tool. This tells us which of the options delivers maximum value for society. We weigh this information, along with the preferences of customers and stakeholders as well as operational factors in deciding the best way forward.



To ensure value was delivered: Once a project is underway, we gather data on the results delivered and the outcomes enjoyed by customers and stakeholders. Putting these through the SROI tool allows us to ensure that value was delivered and to continually improve our ability to measure and forecast the impact of our actions. Continuous improvement plays a crucial role in our mission to do what's best for customers as we move towards Net Zero.

How we have developed the SROI tool further this year



Over recent years, our SROI method has gone from strength to strength: from being the first social value measurement model introduced among DNOs, to being the basis of the industry-wide SROI model introduced last year.

Our focus on continued improvement, the great efforts to ensure it is adopted and used by all areas of the business and our collaboration with industry experts to audit our use of the tool have allowed us to retain our leadership in this space and, more importantly, to make great choices for our customers and communities. Over the past year, our improvement efforts have focused on the data quality of the inputs we feed into the SROI model to forecast and measure value delivered. Inputs are a critical part of the value measurement process: the results are only as good as the quality of the data fed into the model. Ensuring the high quality of inputs can be challenging given breadth of the stakeholders involved in each project (internal and external), uneven timeframes over which projects play out, and the simple fact that provisions must be made, at the start of a project, to track specific outcomes that can be quantified through the SROI model. To address this challenge, we have established a programme of work aimed at improving specificity, clarity and transparency of outcome data gathered across every project.

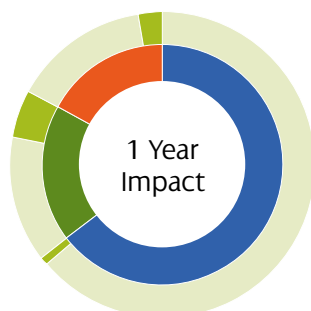
This consisted of four parts:

- 1 Designed a structured 'outcome database', with the necessary guidance and standardisation, in which all data will be held.
- 2 Worked with each project team to define clear roles and responsibilities on the individual(s) responsible for gathering the necessary data.
- 3 Developed content and guidance to facilitate the gathering of data.
- 4 Developed features to allow the central team who track all results to produce automated reports which are periodically shared with the relevant individuals to gather project data.

While this programme was only recently rolled out, it's already having a significant impact: for every project presented, we now have detailed, stakeholder-supported data on outcomes and results that provides us with the most detailed and accurate picture of impact delivered by SPEN to date.

Taking on board Ofgem panel feedback from last year, we have provided additional clarity as to why specific projects have been taken forward, especially if the SROI is lower than other initiatives. Our SROI decision-making model is fed by our engagement strategy. We identify the needs of our customers and stakeholders based on engagement, and perform SROI calculations on options. For example, our Flexible Tower project (page 6) seeks to develop solutions for customers who are in areas of high fuel poverty – this project generates £1.27 of gross benefits delivered per £1 spent over five years. We believe that any figure over £0 is a positive social return, as it means we're generating more social value than it is costing to deliver – particularly in circumstances where the project is scalable worldwide. Given the current cost of living crisis, projects like this and savings of any kind are crucial in supporting our most vulnerable customers.

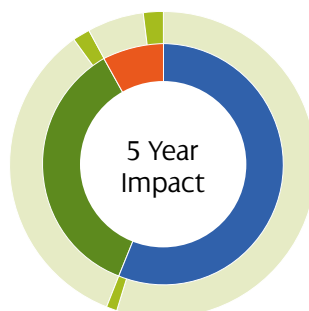
100% of the services referenced in this submission for which an SROI analysis has been conducted create positive benefits for society. These benefits range from values in the tens of thousands to tens of millions of pounds over the project duration of these services, and total to £186,837,421 of total benefits over the next ten years.



£9,705,331

Total benefit delivered by services referenced in the SECV 21/22 submission this year.

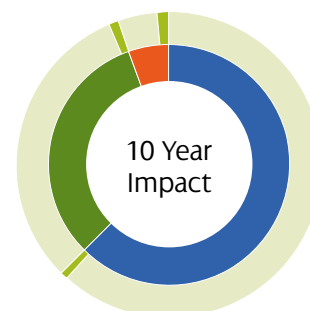
For every £1 spent, we delivered a total benefit of **£2.28** to our customers.



£112,485,400

Total benefit delivered by services referenced in the SECV 21/22 submission over the next five years.

For every £1 spent, we will deliver a total benefit of **£6.64** to our customers.



£186,837,421

Total benefit delivered by services referenced in the SECV 21/22 submission over the next ten years.

For every £1 spent, we will deliver a total benefit of **£8.09** to our customers.

- Financial Benefits to customers and stakeholders
- Social Benefits
- Initiatives from the blue section
- Initiatives from the green section
- Initiatives from the orange section

Develop a network that's ready for Net Zero



We're driving the Decarbonisation of Transport

E Embedded

The challenge

Within the next ten years alone, we expect the number of electric vehicles in our two distribution networks to increase of over 1.5m vehicles on the road, and with it, the requirement for EV charging will double the demand of electricity in a domestic property.

The projects tackling this

With a collaborative approach, we're partnering and working closely with our stakeholders to ensure a joined up approach that supports their individual needs and helps us plan and facilitate the significant impact of increasing demand on our networks.



Working closely with local authorities

Stakeholders said:

Our Smart Cities Working Group highlighted we should work with LAs to formulate EV strategies and assess optimal locations for EV infrastructure development. They stressed that putting in place sufficient resource to establish regional needs is a central tenant and would provide greater clarity to support low carbon projects.

Actions we've taken:

- ✓ Completed EV optioneering for all Local Government Bodies across SPM, along with specific funding options and projects for Welsh Government EV rollout, targeting areas where the commercial market has not yet delivered. This is helping them determine EV roll-out and associated timescales.
- ✓ Launched the 'ConnectMore Interactive EV Map', which is a free online tool allowing users – such as, local councils, site owners, property developers and chargepoint operators – to easily identify where public EV charging demand is likely to be high and where it can be accommodated by the electricity network.

- ✓ Working with all 32 Scottish councils and 18 across England and Wales to support them with their decarbonisation plans. We've hosted six workshops on EV charging installation and offered training for all LAs.
- ✓ Applying the optioneering methodology used as part of the ED1 Project PACE to carry out detailed optioneering in specially selected areas, informed by the our innovation project EV-UP and Local Authority development priorities.
- ✓ We're taking our forecast to the next level by providing optioneering analysis for LAs across both our licence areas – adding a layer of localisation and getting closer to our stakeholders and customers, allowing us to support their increase in low carbon technologies.
- ✓ Active member of the Cheshire & Warrington LEP Sustainability and Inclusive Growth Commission to support the development of their Sustainable Transport Plan.
- ✓ Proactive engagement with LAs in Manweb to feed into the Sustainable Transport Plan to better understand their needs.

"This effective partnership working with SPEN, using specialist knowledge, is radically improving the speed, effectiveness and efficiency of the rollout of electric vehicle charging infrastructure."

Michael Mathieson, Cabinet Secretary for Net Zero, Energy and Transport



For every £1 cost = £9.08 gross benefits delivered per £1 spent over 4 years for Project PACE



Outcomes:

DNO FIRST

- First DNO to offer a 'ConnectMore EV Map' to support the installation of EV charge points. Since its launch on our website, this tool has been used 2,623 times.
- Carried out over 1,000 detailed analysis for Liverpool City Region, Cheshire & Warrington LEP, Transport Wales, Welsh Government including: zero carbon refuelling stations, petrol stations, public car parks, ferry terminals, and 1,000 trunk road locations.
- Welsh Government and Transport for Wales used our analysis to submit Green Recovery projects, allowing us to invest in 25 new substations across rural Wales.
- Following the benefits of PACE, we've added a proposal to our business plan for a Strategic Optimiser role for all local authorities across our SPD and SPM licence. This will provide crucial advice and support for LAs to decarbonise transport.

Impacts:

- ✓ 200% increase in public EV charging across two LAs, targeting areas where the commercial market is unlikely to deliver, ensuring public EV charging is accessible to everyone.
- ✓ Increased number of chargers in Scotland by 14%.
- ✓ Savings between £30,000 to £60,000 on electricity grid connection costs – equating to savings of £1.3m to £2.6m of taxpayer money.
- ✓ Charging for 4,000 more electric vehicles expected, delivering further savings of up to £2.6m.
- ✓ Scaling this up across other regions could lead to £26m of connection savings in Scotland, and £310m across the UK.

Collaborating with other industry players

Stakeholders said:

Through our EV Charging Workshop we should go further in providing support in our approach to Whole Systems involving more proactive support to roll out EV charging infrastructure, wider knowledge sharing on grid innovations and new methods for engaging customers.

Actions we've taken:

- ✓ Active member of the Warrington Borough Councils' Strategic Infrastructure Group to support design plans to decarbonise infrastructure in the area and facilitate economic growth.

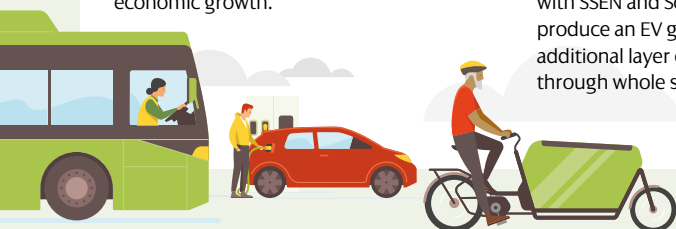
- ✓ Provided support for Warrington Borough Councils funding proposal to the Zero Emission Bus Regional Area Scheme, allowing them to decarbonise their bus fleet.
- ✓ Hosted a session with other DNOs, such as SSEN, to share learnings with industry partners on our EV-UP project.
- ✓ Active member of the Bus Decarbonisation Taskforce and held best-practice sessions, including a workshop on 'How to Connect to the Grid' to provide additional support to our stakeholders.
- ✓ Helping educate on Net Zero by working with SSEN and Scottish Government to produce an EV guide booklet, providing an additional layer of support to stakeholders through whole systems working.

Outcomes:

- Our strong engagement with Warrington Borough Council led to them being awarded £20m to assist in replacing their entire aging diesel fleet with 4,000 electric and hydrogen buses.
- Investing £6m in a new substation, critical to supporting First Bus to introduce electric buses from 2021 to 2023. This work requires additional capacity not currently supported by the existing electricity network. We're continuing our strong relationship with First Bus and directly engaging to support their Net Zero ambitions.
- Distributed our EV Guide booklet with over 500 unique opens from key stakeholders, supporting our customers on their low carbon journey.

Impacts:

- ✓ The new substation will provide the additional capacity on the network to charge over 3,500 electric buses.



Collaborating and engaging to decarbonise heat

 Embedded

The challenge

To tackle climate change, we need to drastically reduce greenhouse gas emissions to Net Zero. Over 80% of the energy used in buildings is for heating and almost two thirds of the energy demand is currently met by carbon intensive fuels such as natural gas, oil and coal.

The projects tackling this

We're a key enabler to the decarbonisation of heat, but the concurrent increases in heat pumps mean demand will increase beyond existing network limits. We're working with our stakeholders, communities and through partnerships on innovative solutions to decarbonise heat.



Stakeholders said:

Stakeholders at our DFES workshops, Nov 2021 would like us to consider the network impact of rapid and electric heat uptake and share insight with partners to help meet UK government targets of 75% carbon reduction by 2030.

Actions we've taken:

- ✓ Using our learnings from our innovative Heat-Up project, we supported Scottish Government in producing a framework to support network companies put in place solutions to facilitate the uptake of heat technologies.
- ✓ Member of Strategic Heat Electrification Partnership with Scottish Government and SSEN to help plan and deliver an electricity network to support the scale of Government ambitions.
- ✓ Proactive partnership in the Net Zero North West Cluster to support the industrial decarbonisation in the North West – this area is responsible for 5% of the UK's energy usage.
- ✓ Developing a decarbonisation pathway for Liverpool City Region Combined Authority to support the Liverpool Region, including Chester, Cheshire West and Warrington.

- ✓ Proactive partnership with Fife Council on a Local Heat and Energy Efficiency Scheme, helping them identify where the demand is for the electrification of heat.
- ✓ Taking learnings from Project PACE (a trial to identify cost-effective public EV charging infrastructure) as a template for collaboration and optioneering focused on heat decarbonisation.
- ✓ Established a partnership which allowed experienced SPEN employees to work with and support local government, in response to Liverpool City Region declaring a climate emergency. We helped develop and support plans to deliver the region's Net Zero ambitions.
- ✓ First DNO to develop a forecasting tool – Heat-Up, which uses spatial, demographic, and socioeconomic data to forecast heat pump uptake for every customer we serve.
- ✓ Launched our Heat Strategy, analysing how buildings are currently heated, the need for change and what this means for our customers and local communities.

Outcomes:

SHARING BEST PRACTICE

- Supported Scottish Government in creating a framework to support energy network companies decarbonise heat.
- Held 15 workshops with other DNO's and Local Authorities to share best practice and demonstrate how to use the tools.
- Insights from our Heat Strategy will enable us to support our customers to switch to affordable, reliable, and clean heating.

Impacts:

DNO FIRST

- ✓ Improved forecasting and modeling, through tools such as Heat-Up, can reduce the need for future network investment by 1% and represent a saving for customers of c£6m.
- ✓ Within our Heat Strategy, we plan to deliver £80m of customer savings through embedding learnings from our innovation projects and adopting best practice from successful industry trials.

Leading the way to provide flexibility services to our customers

 Developing

The challenge

Zero carbon targets combined with increasing energy demand creates a complex energy challenge. To avoid large scale, disruptive changes to the energy network we need the existing system to become more efficient and effective to overcome this challenge, at the least cost to consumers.

The projects tackling this

We're exploring markets for flexibility with new and existing customers who are able and willing to control how much electricity they generate or who can control their demand. This will reduce costs for our customers and help mitigate the need for traditional network reinforcement.



Stakeholders said:

Bilateral meetings with stakeholders on DSO & Flexibility stated we must focus on delivering flexibility services as a priority if we are to deliver the network of the future. They agreed the journey to Net Zero will see an increased reliance on electricity and the overall demand on the network and stressed the rate of decarbonisation will not be geographically uniform and clusters are likely to emerge.

"It's really exciting to be the first UK DNO to be able to contract for reactive power at a distribution level. We're proud to be working with Conrad Energy on this project, which will help us better manage our network and support the expected increase in low carbon technologies."

Graham Campbell,
Processes and Technology
Director



Actions we've taken:

- ✓ Partnered with Octopus Energy to carry out 'Demand Turn Up' trial. This is the first time we will explore how domestic customers can take part in the flexibility market, and working with them during periods of excess generation and shifting domestic demand to suit.
- ✓ Issued our largest ever tender for flexibility services, procuring 1.4GW of flexibility – **the most out of all DNOs.**
- ✓ Only DNO to provide pricing signals to allow market participants to understand the level of revenue they can get from offering such services – helping enhance transparency and increase participants.
- ✓ Working with other DNOs to standardise the tendering process for flexibility.
- ✓ Introduced a dedicated point of contact for those interested in our flexibility services, and held numerous one-to-one sessions to support our stakeholders and provide guidance on how this works.

Outcomes:

- 1,300 customers took part in our 'Demand Turn Up' trial, increasing aggregate demand by 2.3MW. Future developments would see this approach integrated with advanced forecasting and monitoring allowing excess generation to be absorbed by local demand.

DNO FIRST

- Accepted 555MW of Flexibility service bids, which could provide 700MW of flexibility every year.

DNO FIRST

- Tender for Reactive Power Services, with requests for 38MVAR – helping manage voltage and increase uptake of LCTs.
- First DNO to calculate site-specific pricing signals.

DNO FIRST

- Deployed a Universal Smart Energy Framework in the UK, providing the basis for a unified smart energy market ensuring projects and technology are connected at the lowest cost.

Impacts:

DNO FIRST

- ✓ Our flexibility services will defer £36m of network reinforcements, reducing costs for all our customers.

Supporting our customers' 'home of the future'

 Embedded

The challenge

It's vital we are aware of the future increase in demand that will come with the increased uptake of low carbon technologies such as Heat Pumps. Higher uptake of LCTs means that larger and costly reinforcement is required on our network for new housing developments. Previously, calculations were carried out manually and was a timely process for stakeholders.

The projects tackling this NEW DEVELOPMENTS

We're continuing to develop and enhance our ADMD customer demand calculator, which allows stakeholders, such as large housebuilders, to more accurately calculate their demand requirements to add additional LCT load.



Stakeholder said:

Housing developers at our Customers and Communities Workshop Feb 2021, stated they wanted a more accurate way to forecast capacity requirements to increase LCTs in new developments, placing emphasis on this being an accessible, self-sufficient and transparent process.

Actions we've taken:

- ✓ Developed new demand calculator by carrying out analysis with our internal and external stakeholders to identify improvements – we're launching a version 2 later this year.
- ✓ Strategic partnership with GTC (an Independent Connections Provider) and CALA homes (UK's leading new home developers), on a two-year engagement plan to help calculate the impact of renewable technologies on housing developments in the East End of Edinburgh, an area of high fuel poverty.
- ✓ Without our proactive engagement with CALA Homes and use of the calculator, the project would have been delayed by two years.
- ✓ Launched training programme for internal staff on how to use the calculator, allowing them to be better placed to provide stakeholders with accurate information relating to their connections project, as

well as improving internal efficiencies and reducing staff time.

- ✓ Engaged with Scottish Government to demonstrate the impact policy decisions can have on the network and house builders.
- ✓ Proactive stakeholder mailer sent to 915 registered stakeholders to further promote the use of the tool and associated benefits.
- ✓ Launched tool on our website allowing all of our customers and stakeholders free access. To date, the calculator has been downloaded over 100 times.
- ✓ Following stakeholder feedback, we added a 'user guide' and 'assumptions' tab to give customers a step-by-step, self-help guide when using the tool.
- ✓ Embedded the tool within our digitalisation strategy.

"Having used the calculator to work out the impact of differing renewable technologies, we can quickly establish the load constraints to any new site very easily. This allows us to plan developments at a much earlier stage in the process to negate further works once the site is underway."

Stephen Kelso, Group Product Design Manager, CALA Group



Outcomes:

- Launching version 2 of the calculator with new functionalities, following specific stakeholder feedback – for example, we'll provide unlimited calculations (compared to the current limit of 100 houses). This functionality will allow greater uptake of LCTs for larger housing developments, in turn maximising the positive environmental impact of new homes.
- Used tool for all local government optioneering analysis, creating 900 feasibility studies across SPM for the uptake of EVs, heat pumps and generation. For example, we've identified over 320 EV charging locations for Welsh Government.
- CALA Homes planned network capacity growth of a 600-home housing development using the calculator, realising there would be a demand shortage between 2024-2026. As a result, a new primary substation will be built in the area to mitigate the shortfall for these two years.

Impacts:

- ✓ Shared the calculator with all UK DNO's, Housing Developers and Associations for mass uptake – this is now being utilised across the UK.
- ✓ Reduced staff time by around 150 hours over 3 years.

For every £1 cost = £10.45
gross benefits delivered per £1 spent
over 5 years for ADMD Calculator



Leaving a legacy impact in our communities

 Embedded

The challenge

Scotland has seen a significant growth in renewable technologies connected to the network in recent years. These have caused constraints in some areas which will cause a blocker to the continued growth of renewable generation.

The projects tackling this NEW DEVELOPMENTS

Active Network Management (ANM) is a way of managing connections into the electricity network – responsible for connecting generation, like renewables, to the grid. We're proud to be able to demonstrate ANM, which can bring significant socio-economic benefits to the country and directly to the communities we serve.



Stakeholders said:

Stakeholders want flexible solutions to connect to our network in areas of constraints. At our Customers and Communities Workshop they emphasised we should work with LAs and infrastructure developers to support local communities decarbonise as well as working with local suppliers and employing local contractors.

Actions we've taken:

- ✓ Commissioned Regen to evaluate impact on local economy and to explore how this approach could be used to greater effect in our networks as they evolve.
- ✓ Using learnings from the project to develop future ANM projects, helping continually streamline and improve the process.
- ✓ Bilateral engagement with new and existing customers, as well as other industry players, such as ESO and Local Authorities to share the benefits and learnings of ANM.
- ✓ Deploying a wide-scale ANM across Dumfries and Galloway and our North Wales network area – utilising our existing network assets more efficiently, reducing costs for customers.

"Our evaluation clearly shows that ANM is a valuable tool to allow DNOs to accelerate the deployment of renewable generation in capacity constrained areas, and unlock associated carbon savings and economic benefits of these projects. The Dunbar ANM scheme has also made a significant contribution to the continued innovation and development of ANM technologies."

Tim Crook,
Senior Project Manager, Regen



Outcomes:

DNO FIRST

- First of its kind project in the UK, enabling total capital investment of an estimated £200m.
- Enabled four new projects to connect to an export constrained network, and one windfarm to upgrade from its constrained connection to an ANM flexible connection.

Impacts:

- ✓ Reduction of 522k tonnes of CO₂ by 2031.
- ✓ Facilitated the creation of 56 full time jobs.
- ✓ Provided £75,000 of community benefit for the lifetime of the connected projects.
- ✓ Added £61m to the Scottish economy, of which over £7m was in the local area specifically.

For every £1 cost = £5.43
gross benefits delivered per £1 spent
over 5 years for ANM Dunbar



Be a trusted partner for our customers, stakeholders and communities



First utility company in the world to achieve the prestigious BSI (British Standards Institution) Kitemark for Customer Service.

Supporting our vulnerable customers restricted by storage heater technology D Developing

The challenge

Customers with storage heaters currently have little to no control over their heating and hot water systems. The option to heat their homes during the day, and when they need it most, isn't currently available. To replace the entire system would be at a large cost to residents, and with the increased cost of living, rising fuel and heating bills, this would add increased pressure to customers – especially those already in fuel poverty.

The project tackling this

We worked with Glasgow Housing Association and Connected Response to carry out a 'Flexible Tower' trial at Cartcraigs tower block in Glasgow to deliver a flexibility project. This project will involve using Connected Response Control Technology to improve heating and hot water systems for vulnerable residents and help minimise fuel poverty.



Stakeholders said:

Our Smart Cities Working Group told us to focus on social housing and off-gas grid decarbonisation, highlighting that local heat and energy efficiency strategies will reduce the geographical and technological uncertainties of heat decarbonisation.



Actions we've taken:

- ✓ Taking an active role in engaging with landlords and housing associations to educate how the benefits of flexibility can be accessed by them and their residents.
- ✓ Carried out extensive engagement with local residents to help explain the benefits of this project and support them with any queries.
- ✓ Using the learnings from this project to develop a portfolio to share across the industry and encourage the mass roll-out of this technology across the UK.
- ✓ Provided residents with an easy-to-read brochure to support them with the technology, as well as a direct contact who is available to support residents with any queries and reassurance 24/7.

"The new system is a lot cheaper and much more convenient. With the old overnight storage heating tariff, I used to put my washing on during the night because it was cheaper. Now I have more control over when I use my electricity. I have heating and hot water when I want it – and I'm saving around £300 a year on my bills."

Liz Macinarlin, resident at GHA tower block



Outcomes:

- 10,000 properties in the GHA portfolio are now benefiting from smart control technology.

DNO FIRST

- First project to interface a DNO with storage heaters.
- 108 vulnerable customers have had the smart controls installed and have provided positive feedback this technology is providing more flexibility to heat their homes as and when they need it most.

Impacts:

- ✓ Minimising fuel poverty for residents, bringing an estimated average savings of £100 per customer, per annum.
- ✓ 1.6m people in the UK have storage heaters. If we are able to develop better tariffs and a solution this project could be rolled out worldwide.

For every £1 cost = £1.27
gross benefits delivered per £1 spent
over 5 years for **Flexible Tower** project



Supporting our fuel poor customers with new service solutions P D Planned and Developing

The challenge

Right now, the winter peak heat demand can be five times higher than when compared to summer demand, and with rising fuel bills and the need to deploy more LCTs, we need to invest in our network and innovate to be able to cope with the additional load on the electricity network.

The project tackling this

Project Re-Heat will demonstrate how domestic thermal storage and heat pumps can reduce peak demand on the network – reducing the need for conventional reinforcement. The project will install heat pumps with thermal storage in 150 homes across three local authority areas in Scotland, with particular focus on rural areas where fuel poverty is high.



Stakeholders said:

Engagement with Welsh Government highlighted we play an important role in addressing fuel poverty and supporting those who may be left behind in accessing the benefits of LCTs and the future energy system.

Actions we've taken:

- ✓ Installing thermal storage and heat pump solutions in 150 customer properties in an area of high fuel poverty.
- ✓ Working as part of the Strategic Heat Partnership with Scottish Government to deliver this project and supported by funding from Scottish Government, SSEN and E.ON.

- ✓ Sharing ongoing learnings with BEIS, Ofgem, Welsh Government, Scottish Government and a number of LAs and housing associations in both Scotland and Wales.
- ✓ Hosted webinars with 100 stakeholders to provide progress updates and gather feedback from key stakeholders, including representatives from LAs and consumer interest groups.
- ✓ Using our NAVI system to model the impact of heat pumps on the network and highlight where the network could be overloaded. This trial will help demonstrate how domestic heat batteries with smart control can move demand to reduce peak load on the network as a lower cost alternative to network upgrades.

Outcomes:

DNO FIRST

- Industry-first trial to decarbonise in an area of high fuel poverty.
- Presenting feedback to the Scottish Government to inform their heat policies going forward.

Impacts:

- ✓ 150 fuel poor customers will benefit from the installation of new heating systems and reductions in their heating bill of £136 per year.
- ✓ Carbon savings of up to 425tCO₂e by 2040.
- ✓ Deferring reinforcement in 606 clusters across SPD, delivering savings of £54m by 2040.
- ✓ Wider societal health benefits from the reduction in air pollution achieved by replacing oil or coal fired heating.

For every £1 cost = £3.02
gross benefits delivered per £1 spent
over 10 years for **Re-Heat**



A whole systems approach to deliver Britain's first 'Hydrogen Village'

 Planned

The challenge

At current rates, over 205,000 homes will be built in the UK in 2022. These properties will still be standing in 2050, the target date for the UK to achieve Net Zero, therefore it's crucial that they are built to a standard that is consistent with a pathway to zero-emissions.

The project tackling this

'Hydrogen Village' is a government funded innovation project which will design and implement a town where conventional natural gas supply is converted to hydrogen. We're committed to whole systems working to benefit low carbon solutions for customers. We're working with Cadent Gas to determine any future network reinforcement required to develop a whole-systems local energy plan to identify which properties are more suited to hydrogen or heat pumps.



Stakeholders said:

Our Smart Cities Working Group stressed the importance of us taking a holistic view of the energy mix, rather than consider gas and electricity in silos. They emphasised that a whole systems approach is required, particularly with regard to heat decarbonisation.

Actions we've taken:

- ✓ Whole systems working with Cadent Gas to support 650 homes in an area of high fuel poverty with low carbon solutions.
- ✓ Proactively engaging with local communities in the Ellesmere Port area to determine their low carbon preferences, advising on the best approach and educating customers on low carbon solutions, fuel poverty and energy efficiency.
- ✓ Provided a letter of support for Cadent Gas to back-up their funding request to UK Government for Hydrogen Village.

- ✓ Using our unique position to bring parties together – we carried out analysis and technical engagement in two areas of Ellesmere Port area to determine what the uptake of heat pumps and hydrogen would be in the area and to demonstrate the impact on the network. This allowed the decision to be made on what area would allow a higher uptake, therefore where to focus our efforts.
- ✓ Used our customer demand calculator to assess the impact of the project on our network and what reinforcement would be required.
- ✓ Engaged with Cadent and KIWA Gastec to determine future network reinforcement requirements within our SPM licence area.
- ✓ Sharing learnings with other iDNOs and DNOs for future roll-out across the whole of the UK.

Outcomes:

- More than 650 homes in an area of high fuel poverty will benefit.
- Using our whole-systems local energy plan, we're providing alternative low carbon solutions for customers whose homes aren't suitable for hydrogen, by providing the option to install a heat pump instead.
- This whole-systems energy plan can be replicated across the whole of the UK.

Impacts:

- ✓ Reduction in carbon emissions of 7,000 tonnes of CO₂ per annum – the equivalent of 1,236 homes' electricity use for one year.
- ✓ Reducing the climate impact of buildings in the UK, which were the third highest emitters of greenhouse gas emissions, behind industry and surface transport.

Creating smart micro grids to reduce network demand

 Developing

The challenge

Increasingly, housing developers face significant costs relating to grid infrastructure upgrades to connect an increased amount of LCTs in line with new sustainable heating regulations.

The project tackling this

Continuing our partnership with E.ON to create a smart solution using the existing distribution network, without the identified infrastructure upgrades. This innovative project supports the UK's Net Zero targets by providing an accelerated network connection. This project is expected to evolve across our network.



Stakeholders said:

Through our 'Transition to Net Zero' webinar, stakeholders told us to work closely with housing developers to obtain early sight of development projects and give our expert knowledge to help them develop optimal solutions to negate costly network reinforcement.

Actions we've taken:

- ✓ Using learnings from the initial PD Hero project at the Maidenhill site (included as a case study in last years SECV), we're continuing our proactive engagement with E.ON, iDNOs and housebuilders to roll-out this pioneering solution across further sites in the UK.
- ✓ Shared learnings with Marches LEP and have made introductions to the project team to help them set up and deliver a similar project in North Shropshire, helping enable the high demand of EV and heat pumps within new build homes.
- ✓ Working on collaborative communication materials with E.ON to help educate our communities on Net Zero.
- ✓ Deployed PD Hero to support the Wellington Development of 600 homes, primary school and park and ride with Cala Homes and GTC.
- ✓ Springfield development of 500 homes which has been agreed in principle.

"SPEN played a vital role in facilitating our project at Maidenhill, Glasgow. This new build development presented an opportunity for SP Energy Networks and E.ON Group Innovation to collaborate, enabling a solution that mitigates the disproportionate cost for property developers to pay for an upgrade where the new homes they are building cannot be accommodated on a constrained area of the distribution network."

Denver Rumney,
UK Innovation Lead,
E.ON Energy



Outcomes:

- This project is evolving across an additional four new sites, totalling in c3,000 new homes, and seen as a blueprint project for others to learn from and roll-out across the whole of the UK.

INDUSTRY COLLABORATION

- Working out-with our network area with Nottingham, Cheshire and Bristol Council to replicate this project across the UK.

Impacts:

- ✓ The initial PD Hero project reduced the demand and generation by c30%, removing the need for additional network investment.
- ✓ As a result of our effective partnership with E.ON and wider stakeholders, this solution has now been adopted across the UK and benefiting wider industry, proving the concept is successful.
- ✓ The Wellington Development project, which has evolved from PD Hero, is reducing electricity demand by 20% – helping reduce costs and network reinforcement for our customers and stakeholders.

For every £1 cost = £7.57
gross benefits delivered per £1 spent
over 6 years for PD Hero – Maidenhill



Supporting hard-to-reach communities to lead the way in decarbonisation



The challenge

Given the criticality of the climate emergency, we are helping our communities across England, Scotland and Wales to embrace their low energy solutions in a way that is beneficial for local needs and local network conditions. Community energy is playing a crucial role in achieving Net Zero by increasing participation and embedding behaviour change. Community energy organisations are a critical part of the future energy system and in ensuring a Just Transition.

The projects tackling this

We're leading the way in community energy through supporting the planning and development of key projects, aimed at supporting our local communities journey to Net Zero. We've established a number of partnership projects and collaborations with local energy community groups, building on work in this area, gaining wider stakeholder insight and building this into our plans.

Stakeholders said:

Our stakeholders told us through a Community Energy Survey, May 2021 we should focus on providing education and advice to the public and our communities to facilitate the energy system transition and help address the potential skills or knowledge gaps as they develop local projects. They want "deeply rooted" local energy education programmes, for consistent messaging and improved collaboration.

Actions we've taken:

- ✓ Continued to support our existing Community Energy Projects – Ynni Llyn and Tanygrisiau – allowing for further funding to address fuel poverty in the areas and support communities transition to a low carbon economy.
- ✓ Developed 3 x feasibility studies for Ynni Llyn Community Energy Project to help address network constraints in the area and lower costs for customers. This community faces many challenges, with 43% of the local population suffering from fuel poverty and 69% in transport poverty.
- ✓ Carried out an optioneering analysis for Tanygrisiau Community Heating project, which led to the project being successful for Green Recovery funding.
- ✓ Produced a 'Net Zero Book of Knowledge' for our communities, to help empower local communities and build knowledge.

- ✓ Launched our new Community Energy Strategy and contracted Community Energy England, Scotland and Wales to advise and challenge our strategy.
- ✓ Provided funding for Community Energy Scotland's 'Community Energy Futures' (online tools and educational training).
- ✓ Partnership with 'Carlisle Development Trust' through their Level-Up project to develop optimisation strategies to reduce peak demand on the LV network and enhance energy system modelling to improve LV forecasting capability.
- ✓ Partnered with ZUoS to undertake a technical trial to utilise data from 16 secondary substations in Carlisle, as part of our Level-Up project.
- ✓ Providing optioneering analysis for Zero Carbon Liverpool Community Energy group for households in vulnerable circumstances to roll-out heat pumps across the entire street. This project includes a low-rise blocks of flats, and covers 34 properties in this area.
- ✓ Continuing to sponsor Community Energy England, Scotland and Wales in the production of the annual State of the Sector Report. This annual research activity is the most comprehensive and inclusive sector review of community energy in England, Scotland and Wales.

Impacts:

Ynni Llyn Community Energy Project

- ✓ The project submitted our feasibility studies to the 'smart local energy system fund' and received funding to deliver these. This project will benefit the entire Llyn community by addressing network constraints.

Carlisle Development Trust (Level-Up)

- ✓ The trial covers up to 150 households and four community buildings in Carlisle, allowing the increased uptake of LCT for our communities. Our initial estimates show that learnings from the project could save £185,000 in the Carlisle area and up to £300m across the UK.

Tanygrisiau Community Heating Project

- ✓ We're building a 11kV 1MVA substation in Tanygrisiau with that funding. The entire village will benefit from this network reinforcement, reducing costs and allowing the increased uptake of LCT in the area.

For every £1 cost = £6.82
gross benefits delivered per £1 spent
for **Carlisle Development Trust** by 2050



Investing ahead of need to support our customers green energy ambitions



The challenge

As outlined in the UK, Scottish and Welsh Governments' plans for economic recovery, the green industrial revolution will play a major role in the country's post-covid recovery.

The projects tackling this

We were awarded more than £60m of funding through the Green Recovery investment programme to take forward 40 of these projects, 18 of which are in Scotland, 16 in England and six in Wales. These projects wouldn't have been successful if we had not proactively engaged with a broad range of our stakeholders to support their journey to Net Zero, allowing them to become shovel-ready and delivered at speed.

Stakeholders said:

Through our Smart Cities Working Group, stakeholders told us they want us to engage at the earliest stages possible in development and planning, to identify challenges and evidence the requirement for investment ahead of need.

Actions we've taken:

- ✓ Launched a 'call for evidence' for our stakeholders to put forward shovel-ready projects and worked with them to refine their projects.
- ✓ Submitted 44 proposals to Ofgem – the most ambitious proposal when compared to other DNOs of a larger size. These projects were driven by our stakeholders.
- ✓ Awarded £60m of funding through the Green Recovery programme, taking forward 40 projects and supporting stakeholders to deliver low carbon projects.

- ✓ Working with projects to provide additional electrical capacity to enable the connection of a host of LCTs such as EVs and heat pumps.
- ✓ Proactively engaged with every Local Authority in our licence areas to identify projects which target a range of industry challenges – covering heat, transport, education and housing.



Outcomes:

- Building a new primary substation in Dunfermline which will power a number of major green projects including a new development of 2,500 properties which includes homes, a primary school and retail outlets.
- Built a new substation in Festival Gardens, Liverpool, which is allowing the build of 1,500 eco-homes.

Impacts:

- ✓ Enabling 500 rapid vehicle chargers, 4,000 domestic heat pumps as well as numerous other significant connections.
- ✓ Creating over 650MW of electrical capacity across our networks, enabling the increased uptake of LCTs for our customers.

For every £1 cost = £6.01
gross benefits delivered per £1 spent
over 10 years for **Green Recovery Investment**



Ready our business for a digital and sustainable future



Using digital technologies to enhance customer service

Developing

The challenge

From smart meters, to artificial intelligence – digital technology is vital to unlocking the transition to Net Zero. Digital technology can significantly improve customer service by providing more choice for our customers and by accelerating the delivery of our services.

The projects tackling this

We're introducing new integrated digital and data solutions across our business to enable us to respond to the anticipated increase in customer contact as we support their decarbonisation journey. This will improve the services provided to our customers and stakeholders and make our operations more efficient.

Stakeholders said:

Through our Digitalisation Strategy Workshops, stakeholders told us they would like to see more leadership from DNOs to streamline and simplify their processes, as well as utilising digital technologies to offer more precise data and improve our products and services for customers and stakeholders.

Actions we've taken:

- ✓ Introduced an industry-first 'LV support room' which provides real-time data produced by smart meters and substations to highlight where a neutral fault will or is occurring on the network, allowing us to respond quicker.
- ✓ Established a new Business Transformation team to build and enhance our processes and systems whilst readying our people and transforming our culture.
- ✓ Introduced a new 'Data Hub' providing a single place for data sharing and enabling stakeholders to submit requests for data – helping make data freely available in a format that reflects the needs of our customers.

- ✓ Working with Glasgow City Council (GCC) on their data request, to help them determine which areas of the GCC region are most suitable for the installation of new public EV chargepoints.
- ✓ Collaborating with other UK based DNOs and the ENA to further develop the Data Hub capabilities, ensuring its suitability for the entire electricity network.
- ✓ Partnered with Outram Research to develop the world's first real-time fault level monitor, helping generators to connect more quickly and at lower cost.
- ✓ Introduced a new project to improve customer facing processes. This includes a new Customer Relationship Management system to improve customer facing processes. This will allow us to gather customer contact information, preferences and interactions in one place – Storm Arwen highlighted the need for this system when there is a large increase in customer contact volumes.

Outcomes:

DNO FIRST

- Installed interactive LV monitors in 153 of our substations, providing real time network fault and performance data – helping us improve customer experience by resolving issues before an outage occurs.

DNO FIRST

- Our LV support room has identified 30 'pre-faults' so far, avoiding unnecessary outages for our customers and saving an estimated £60,000 in equipment damage and claims.
- Providing GCC with the data to allow them to serve their region effectively and provide support in electrifying areas that – without these public charging stations – would not be able to transition away from petrol and diesel vehicle usage.

Impacts:

- ✓ Our new customer improvements projects are forecasting an annualised benefit of £2.5m.
- ✓ Our LV support room is proactively preventing faults before they impact our customers. We're planning to roll-out this technology across the entire LV network.

Using digital technologies to improve customer experience

Stakeholder said:

Stakeholders at our Digitalisation Workshop, Feb 2021 told us customers need more digitally enabled channels and self-service options to interact with us, referencing that COVID-19 has accelerated this with the increased adoption of digital technology at work and home.

Actions we've taken:

- ✓ Introduced new interactive chatbot to improve customers' experience on our website.
- ✓ Improving the system based on customer feedback, including adding additional synonyms for faults, connections and vulnerabilities to continuously improve the customer experience.

Outcomes:

- 310,806 customer conversations through our Chatbot in the last year alone, an average of almost 783 per day – 1% of customers have provided feedback, allowing us to continually improve.
- Providing our customers with a multi-channel approach to communicating with us.

Developing innovative tools to deliver our customers' Net Zero ambitions

Embedded

The challenge

Previously, collating all network data would be challenging as it would require years to recreate, with each scenario/year/circuit having to be analysed manually. As there are tens of thousands of circuits, this would be time consuming to do manually and would not be presented in an easily accessible manner.

The projects tackling this

Our NAVI system brings together all the information we have about the network, allowing LV circuits to be traced, mapped, and information displayed in just a few mouse clicks. This helps us better predict customers LCT uptake, and accurately assess the network impact of that uptake.

Stakeholders said:

Stakeholders at our Digitalisation Strategy Workshop told us there is a need to introduce more analytics to make network planning, connections and maintenance more dynamic – emphasising that good quality, reliable data will enable us to respond to the challenges of Net Zero and facilitate the connection of high volumes of LCTs.

Actions we've taken:

- ✓ Launched NAVI system in 2021 and since then we've been working continuously with end-users across the business to

enhance the platform – making sure it meets their requirements and expectations whilst still being aligned with our DSO objectives.

- ✓ Hosted engagement sessions with stakeholders on the development of the system, such as DNOs and universities.
- ✓ Using the knowledge behind our NAVI system to support Project Re-Heat. This has allowed us to model the impact of heat pumps on the network which helps us understand where the network could be overloaded.

Outcomes:

- NAVI has saved 4,974 hours of staff time on new connections alone in 2021 – saving of over £183,000.
- This solution is embedded as 'business as usual' with over £250,000 of benefits reported so far.

Impacts:

- ✓ NAVI allows us to identify voltage issues and proactively prevent faults from happening – resulting in a reduced number of customers experiencing a fault.

For every £1 cost = £10.11
gross benefits delivered per £1 spent
over 10 years for NAVI System



Leading the way to develop environmental and social sustainability

 Embedded

The challenge

Delivering Net Zero requires urgent action by decarbonising heat, transport and energy and the challenge to achieve legislated Net Zero targets will impact every part of society. Businesses must lead from the front to drive sustainability efforts within the business and across the whole supply chain and support wider stakeholders to follow suit.

The projects tackling this

As a responsible network operator, we recognise we need to lead the transition to a more sustainable network and society. We're taking the steps to minimise the environmental impact of our business and network operations, making decisions that meet the needs of current and future network users.



Stakeholders said:

Through our Carbon Reduction & Sustainability Workshop, stakeholders told us to be highly ambitious in our decarbonisation efforts and believe we should set an example for other businesses to follow. Stakeholders said we should focus our efforts on decarbonising transport, especially our heavy vehicle fleet, our supply chain and our buildings – as well as extending our Sustainable Business Strategy to fully incorporate social sustainability issues to generate greater social and economic impact.

Actions we've taken:

Environmental sustainability

- ✓ Launched the UK's first Net Zero Substation to reduce carbon emissions using clean-air technology.
- ✓ Trialling a project to reuse our plastic buckets for jointing resin.
- ✓ Introduced a new project accounting tool Smart Waste – and developed carbon baselines to understand the emissions associated with the infrastructure projects we build and maintain.
- ✓ Working in collaboration with Innovate UK and other network operators to develop a 'Nature tool' to aid in the quantification of biodiversity.

Social sustainability

- ✓ Developed our Sustainable Business Strategy to include new social and economic sustainability drivers using the SDGs.
- ✓ Developed a new Just Transition Strategy setting our vision for social sustainability, co-created with key stakeholders.
- ✓ Continued proactive engagement with our quarterly 'Sustainability Stakeholder Working Group' which brings together key stakeholders including Environment Protection Agency, 2050 Climate Group, SEPA and Scottish Government to help tackle key sustainability issues.

Supply chain sustainability

- ✓ 90 bespoke sessions with suppliers to support them in their sustainability journey.
- ✓ 91% attendance rate at supplier events demonstrating strong relationships.
- ✓ Collaborating with strategic suppliers who didn't meet our minimum sustainability criteria to establish improvement plans.
- ✓ Continued collaboration with Supply Chain Sustainability School (SCSS) for all new contractors to sign up and engage with sustainability training.
- ✓ Launched SCSS to all employees to upskill our workforce on environmental literacy – over 1,000 e-learning resources have been completed.

Outcomes:

- Achieved Gold Award from SCSS for our commitment to upskilling our workforce and increasing environmental literacy across our supply chain.
- Introduced 31 electric vehicles into our fleet and installing charging infrastructure in key operational sites.
- 1,902 employees completed our new climate change e-learning course, further embedding sustainability principles within our business.

Impacts:

DNO FIRST

- ✓ Our new Net Zero Substation reduces carbon emissions by 15% – equivalent to 2.6 tonnes of CO₂.
- ✓ Reusing plastic buckets for jointing resin has the potential to save over £29,000 from mixed recycling costs, saving 220 tonnes of CO₂ annually.
- ✓ Upgrading 609 transformers will save 18,688 MWh of losses and 7,772 tonnes of CO₂ – equivalent to the electricity usage of 1,372 homes for one year.
- ✓ Improvement measures across our sites will save around 346,000 kWh annually.
- ✓ Reduced our carbon footprint across our whole business by 29%.
- ✓ Diverted 87% of our operational waste from landfill.

Building our workforce to develop new skills and become more agile

 Embedded

The challenge

Our workforce needs to evolve to meet changing workload, technology, and sustainability and overcome instances of highly skilled employees reaching retirement age.

The projects tackling this

We're taking actions to build our workforce to become more agile and need to upskill for new green jobs to support Net Zero delivery. We're developing our workforce programmes to meet new challenges and driving the force towards a cleaner, greener future.

Stakeholders said:

Through our Workforce Resilience Workshops Aug 2021, stakeholders want us to focus on workforce initiatives including upskilling and recruitment as part of our approach to a Just Transition.



Actions we've taken:

- ✓ Launched our largest recruitment drive in over 20 years for 152 new green jobs.
- ✓ Broadened our range of trainee programmes, introducing 10 new programmes, including our first cyber security and data science graduates.
- ✓ Our CEO, Frank Mitchell is the chair of Skills Development Scotland, highlighting our commitment to our workforce at the highest level of our organisation.

Outcomes:

- Recruited 600+ new trainees and upskilled 65 of our staff to become technical craftsperson's and 43 becoming engineers.
- 260 hours of training complete per employee, covering operational, technical and development training.

Impacts:

- ✓ 96% increase on recruitment from 2020, and forecasting a further 74% increase on our recruitment for 2022.
- ✓ Latest recruitment drive increased employees by 25%.

Stakeholders said:

Stakeholders at our Workforce Resilience Workshops underlined our responsibility to reduce the gender and minority gap in the engineering profession and to diversifying our workforce by engaging with community champions/voices.

Actions we've taken:

- ✓ Launched an 'unconscious bias programme' which has been rolled across our entire business.
- ✓ Created an action plan to increase the number of women in STEM and senior management roles.
- ✓ Launched employee-led network – VIBE (Voice, of Inclusion & Balanced Ethnicity) – representing the voices of people with diverse backgrounds.

Outcomes:

- Increased women in STEM roles from 20% to 30% and 13% to 21% in senior management roles.
- 130 members joined VIBE, making it the fastest growing network within the business.
- Through our VIBE networks group, we're working to introduce a 'staff prayer room' in our offices.



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