

A woman with reddish-brown hair, wearing a light blue denim button-down shirt, is smiling as she plugs a black charging cable into a red electric vehicle. The background shows a brick wall and a window with a view of trees. The entire image has a red overlay.

Stakeholder Engagement and Consumer
Vulnerability Incentive 2021-22

Part 2

**Delivering meaningful outcomes
for our stakeholders, customers,
and communities**



Who we are at Northern Powergrid

Northern Powergrid is the electricity distribution business for North East England, Yorkshire, and northern Lincolnshire. We deliver power safely and reliably to 8m people across 3.9m homes and businesses. Our network comprises more than 63k substations and 96k km of overhead power lines and underground cables, spanning some 25k km².

Every year, we report on our Stakeholder Engagement and Consumer Vulnerability (SECV) Incentive activity by publishing a summary report showing how we engage with our diverse range of stakeholders and tackle critical issues relating to consumer vulnerability.

This three-part report demonstrates how our engagement activities address wider social and environmental issues that impact our customers, our communities, and all of us, while ensuring we prioritise people's power through the ongoing efficiency and reliability of our network.

Our submission is divided into three parts and this is Part 2:

Part 1: an overview of our strategies and approach to ensure customer and stakeholder voices are driving change and improvement now and in the future.

Part 2: details and examples of how engagement is leading to measurable improvements for our customers and stakeholders.

Part 3: setting out our consumer vulnerability strategy and approach to partnerships, fuel poverty programmes, and ensuring there's Nobody Left Behind.



Contents Part 2

Stakeholder Engagement and Consumer Vulnerability Incentive 2021-22

Introduction to our 2021-22 Part 2 report	1
Measuring our impact – SROI in action	2
Data & Digitalisation	3
Supporting Our Communities	5
Reliability & Resilience	7
Enabling Net Zero	8

Minimising the environmental impact of the SECV print submission



This year, we wanted to share how we went about minimising the environmental footprint of our print submission, which was printed by **Park** and hand-delivered to Ofgem via public transport to reduce CO₂ emissions from the 'dirty last mile' of delivery.

- Carbon emissions offset by ClimatePartner.
- 100% recycled paper stock.
- Print company recycles oils to reduce waste.
- Biodegradable wallets.
- Hand-delivered via public transport to eliminate private transport emissions.

Glossary of terms: The energy industry is full of acronyms and unusual terms. You can find simple explanations of everything we talk about in this document at ceg.northernpowergrid.com.

Introduction to our SECV 2021-22 report: Part 2

Engagement is embedded in all areas of our day-to-day business, at all levels. Which is why in this year's SECV report, Part 2 of our submission is introduced both by our senior leadership and a front-line colleague.

44k
stakeholders engaged

104
outcomes for stakeholders in Part 2

10
initiatives targeting...

...hard-to-reach customers

...and under our Nobody Left Behind framework

A message from our Policy and Markets Director



For us all, 2021-22 was a year of great turmoil and uncertainty. At Northern Powergrid, we've been having honest and challenging conversations, reflecting on feedback from the SECV panel and stakeholders, and rolling out plans to ensure engagement and feedback clearly influence our decisions, and stakeholders' voices create meaningful outcomes – shaping our day to day, our strategic planning, and our delivery.

Visible leadership is vital: I and other executive members have spent time hearing directly from the people whose lives we power, and we've embedded more exec-level presence at our panels and forums.

As we gear up to our business plan for 2023-28 and navigate the energy crisis, we have transformed our governance (see Part 1) to centre consumer voice in areas of business change.

We have also defined the role of and made permanent our Customer Engagement Group (CEG), to scrutinise

our activities and hold us to account – crucial to helping us develop our approach and improve our organisation.

In Part 2, we are sharing a selection of our activities and outcomes delivered in 2021-22 for our 8m customers, based on four areas stakeholders cited as priorities – **Data & Digitalisation**, **Supporting Our Communities**, **Reliability & Resilience**, and **Enabling Net Zero** – to show how we live and breathe engagement. At Northern Powergrid, it is everyone's job.

Paul Glendinning

A message from one of our Regional Customer Service Managers



Understanding customers' needs is the most important part of my job. And, despite the recent storms and the pandemic, we've conducted a huge amount of engagement this year.

remote communities, finding out more about the people we serve and their unique needs. In 2021-22 I met with a diverse range of stakeholders, from those working for Newcastle Airport or the NHS to local government and vulnerable customers in isolated areas.

I'm proud that we've engaged with stakeholders despite social distancing. Digital platforms have allowed us to conduct some meetings remotely, but my personal preference is meeting

people in person to improve relations, build a rapport and earn trust. It gives us the opportunity to discuss the role we play in the communities we serve – a responsibility that we take seriously.

We have had many open and honest discussions with stakeholders over the past 12 months. We're constantly improving our understanding of our customers, so we can support them.

Chris Mitchell

Measuring our impact – SROI in action

In Part 1, we detailed our approach to data-driven decision making and how we use Social Return on Investment (SROI) modelling to consistently prioritise our projects and measure their impact. Throughout Part 2, we've shared some examples of projects that include SROI impact measurements. On this page, we demonstrate how we use SROI for different purposes: to measure our performance; prioritise initiatives, and ensure we are considering data when we are scaling and adjusting projects to deliver customer benefits.

SROI modelling in action: Microresilience

The way customers consume and use energy is changing and, as a Distribution Network Operator (DNO), we need to ensure we can manage load and resilience across the system. To do this we are piloting Microresilience, an innovation project to ensure stability of supply, especially to those who are most vulnerable, while identifying new areas of learning. The project is in its infancy but as we expand past our current pilot areas – the remote forest village of Byrness, Northumberland,

and the NewcastleGateshead Swing Bridge – we expect to realise additional, broader benefits. See page 8 for project details. Here we show how we modelled the SROI of the Byrness programme:

- identified the number of stakeholders who would benefit from this project (50 households, providing long-term benefits to c. 120 people);
- identified the positive social outcomes: reduced interruptions, minutes of lost load, and the stress caused by power cuts; and

— used standard, monetised proxies to model a five-year net present value of -£161.2k and an SROI value of -£0.77.

As we continue to scale this project, we will be able to better fit the needs of the community where Microresilience is installed, allowing us to maximise the value, while prioritising projects for the communities that need them most.

SROI modelling in action: our BCF

We are constantly looking to improve the ways we operate to reduce our own business carbon footprint (BCF) as we transition to a net zero world. We have, for example, reduced the mileage of our fleet and increased the number of EVs we own. You can read about our initiatives in detail on page 10.

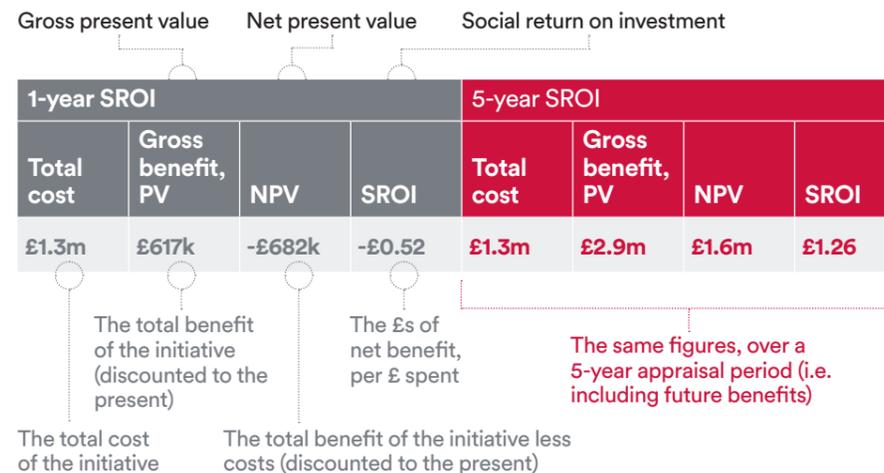
To model the social value, we:

- accounted for the financial savings we could pass on to customers through reducing fuel consumption and fleet maintenance p.a.; and
- valued the social benefits of reducing our CO₂ emissions using Ofgem's carbon pricing guidance.

Combined, these projects provide a negative SROI in the short-term, but they contribute positively to the net zero transition and provide a yardstick to measure improvement in the future.

How to read our SROI modelling throughout Part 2:

Figures based on our cost- and carbon-saving Boston Spa Energy Efficiency Trial (BEET), which aims to cut customers' energy bills through smart meters and voltage optimisation



Focus area	Initiative	New	Improved	Embedded	Replicable	Prioritises vulnerable customers	Hard-to-reach	Nobody Left Behind	Page number
Data & Digitalisation	Introducing new automated phone systems to increase call capacity & unlock bespoke responses	•				•	•	•	3
	Working with the Energy Networks Association to open up our data		•	•	•				3
	Supporting community net zero development through enhanced open data through our DFES 2021		•	•	•				4
	Targeting customers' digital experience during power cuts	•	•	•	•	•			4
Supporting our Communities	Maximising the impact of Green Recovery investment through community schemes that deliver lasting social legacy		•	•	•	•	•	•	5
	Electrifying off-grid farming communities to help decarbonise agriculture	•			•	•	•	•	5
	Capacity-building grassroots organisations to alleviate fuel & food poverty		•	•	•	•	•	•	6
	Creating joined-up partnerships to target community support	•			•	•	•	•	6
Reliability & Resilience	Reconnecting customers as quickly as possible during Storm Arwen				•	•	•	•	7
	Improving the reliability of our network through high & low voltage automation		•	•	•	•			7
	Innovating in partnership to reduce accidental contact with the electricity network	•			•		•		7
	Spearheading the national campaign to increase reach for the Accelerated Loss of Mains Change Programme (ALoMCP)		•	•	•				7
Enabling Net Zero	Improving resilience for remote communities & critical infrastructure with small-scale energy storage	•			•	•	•	•	8
	Supporting emerging Local Area Energy Plans through increased engagement with local authorities & collaboration with gas distribution peers		•	•	•			•	8
	Publishing our decision-making rationale to create transparency around 'flexibility first'			•	•				9
	Responding to the needs of community energy groups		•	•	•	•	•	•	9
	Collaborating to equip SMEs with the tools to achieve net zero goals		•	•	•		•	•	9
	Accelerating the uptake of low carbon technologies by supporting connections providers	•			•				10
Leading by example using science-based targets to tackle our business carbon footprint		•	•	•				10	

Data & Digitalisation



The way we all use energy is changing. To facilitate this change, we must make good quality, accessible open data and analytical toolkits available to customers to give them the information and insight they need to make bespoke flexibility and connection decisions. Our Consumer Panel told us they expect to see increasingly digital customer service over the next 10 years, and want us to help manage this transition to ensure there's Nobody Left Behind. Engagement at our Future Service

Design Conference showed that stakeholders want us to publish more up-to-date granular data, particularly on energy use and carbon intensity, refine our tools to assess future energy scenario data, partner and collaborate with experts to publish data to support Local Area Energy Planning (LAEP), and be a trusted source of data that's accessible to all and easy to use. Here, we share case studies that show some of the highlights of our Data & Digitalisation projects in response to this feedback.



<3 seconds
average call time-to-answer



+10%
accuracy of power cut restoration times



IMPROVED
DFES modelling datasets, interface, and search tools



NEW
Open data partnership with Energy Networks Association

Introducing new automated phone systems to increase call capacity & unlock bespoke responses



We've invested in digital technology and streamlined our website to create more contact capacity, ensuring customers can always talk to a contact centre colleague.

Stakeholders told us: to increase our use of digital customer service tools – but also increase our support to ensure all customers can manage a digital transition. Customers wanted us to introduce online and live chats and use social media, particularly for quicker updates – but to make sure we always kept the option of a person to speak to.

So we: invested £3.2m to modernise our interactive voice response (IVR)

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£1.3m	£1.7m	£416.9k	£0.32	£3.2m	£8m	£4.8m	£1.51

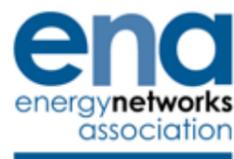
Working with the Energy Networks Association (ENA) to open up our data

Stakeholders wanted more data, faster, to support new low carbon technology (LCT) connections requests, so we teamed up with the ENA to find the best way to provide it.

Our stakeholders told us: they would like access to our data for a range of purposes, such as identifying the best place to establish an electric vehicle (EV) hub or finding out where to connect a wind turbine.

So we: worked with the ENA to open up our data to benefit all network operators. We co-created a three-step

process with our stakeholders. The first step is for a stakeholder to request data via the ENA site energynetworks.org. This is then evaluated by the ENA, which passes the request on to us if this is data we can provide. We then process the request. The type of data requested can vary greatly, but it is mostly related to network health and identifying



pockets of surplus energy that are well suited for new connection requests.

Stakeholder outcomes

- Industry-leading response times: <3 second avg. call time-to-answer
- 50% reduction in repeat callers through proactive SMS capabilities
- Expected 70% customer speech recognition, simplifying customer experience and releasing advisor availability for more complex cases
- Automated dialling and text-to-speech tech. to automate voice calls, ensuring customers can be contacted in a timely manner
- Customers can make secure payments without providing card details to an advisor

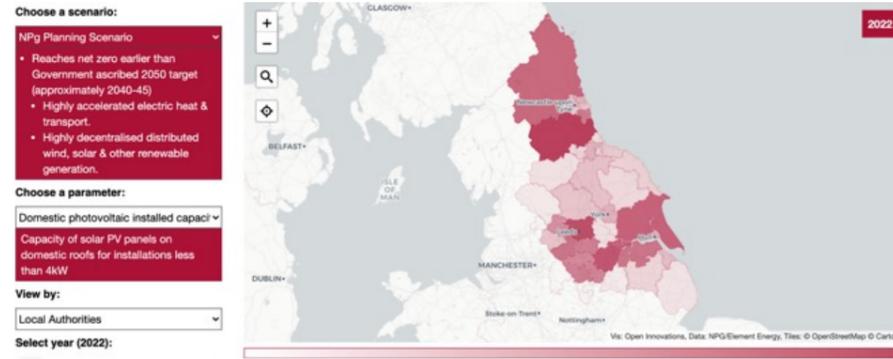
Our new phone system has improved voice recognition – recognition of a spoken postcode increases from 33-50% to over 70%. And we can now edit messaging in real time and remotely, so customers can access up-to-date info without waiting.

Max Jones, IS Digital Programme Manager

Stakeholder outcomes

- Helping stakeholders to establish new LCT connections and grow their business
- Streamlining the applications process for stakeholders, saving time and improving their ability to identify efficient locations for LCT deployment
- Delivering a more consistent approach nationally across different DNO regions – a clear stakeholder priority as they often work across DNO boundaries

Supporting community net zero development with open data through our DFES



Local authorities (LAs) such as Durham and Barnsley Councils, and organisations including Transport for the North, all identified data-sharing as a vital prerequisite to future energy requirements and planning.

Stakeholders told us: that predictive network capacity data was critical for making net zero decisions. C. 75% of our region's LAs and combined authorities have declared climate emergencies.

So we: supported our 2021 Distribution Future Energy Scenarios (DFES – five scenarios modelling changing energy use in our region up to 2050) with open datasets and visualisations broken down by both LA and primary substation boundaries. And we ran an engagement programme to encourage user-led data to ensure we captured the best quality data, including an inaugural Quick Win 100 survey benchmarking 2020 data against the expectations of load growth

Stakeholder outcomes

- 43 modelling datasets in the DFES 2021 document
- 39 LAs provided with local forecasts
- Robust open datasets for local net zero modelling
- Data graphs in one-click download scalable-vector-graphic format with data available as CSV files
- Friendlier interface for LAs, by converting postcodes served by each primary substation to output areas, aggregating them to get the share of the primary in each LA area



Open data in action: Hope Valley Climate Action (HVCA)



HVCA, a grassroots climate action group in North Derbyshire, used our DFES 2021 data to publish its Future Domestic Energy Demand report, an insight into the future of household energy consumption and the benefits of tackling climate change.

This has enabled more engagement with local residents around targeted priorities, including how current small scale renewables can be extended to more homes and if there is a place for larger scale renewables in the area, while recognising landscape sensitivity in the Peak District National Park.

We needed detailed modelling of the future of energy demand in Hope Valley. Northern Powergrid's data in an accessible format played a key part.

Dawn Ward, Renewables Project Officer, HVCA

Targeting customers' digital experience during power cuts

Developing data tools to estimate restoration times more accurately during power cuts

Our customers told us: that they wanted more accurate estimates for power restoration in the event of power cuts. Accuracy of restoration times and information is one of the main reasons for dissatisfaction with our surveyed customers negatively commenting on this area.

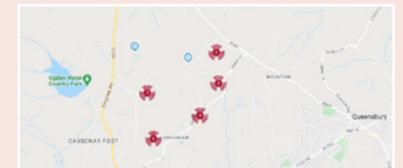
So we: developed a machine learning tool that uses historical data to more accurately predict when power will be restored during periods of normal weather. Typically, 90% of customers are restored to power within three hours for low voltage (LV) incidents and within 90 minutes for high voltage (HV) incidents, so that's always been our first estimate.

Once we have a first responder on site and more information about the incident one of our team would normally update

the estimate based on their detailed information. The restoration of the power cut may involve complex repair work or the network reconfiguring and as this progresses further updates may be required. Typically we may share up to four revised estimates, with the average currently sitting at c. three estimates per incident. This test-phase data project is focusing on improving the accuracy of the second estimate, once the first responder is on site, and this will reduce the number of estimates required as the restoration work is progressed and completed.

Stakeholder outcomes

- Reduce the average number of estimates per power cut from 3 to 2
- >10% increase in accuracy of the second incident
- Learnings allow us to better allocate resources to resolve power cuts
- Follow-on work will look to improve estimates during storm situations



1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£224k	£65.8k	-£158.2k	-£0.71	£224k	£307.7k	£83.7k	£0.37

Supporting our Communities



We act as a force for good in our region, meeting bi-monthly with our Social Issues Expert Group (SIEG) to help us deliver positive impacts in the communities we live and work in. This includes helping all sorts of customers to decarbonise, and creating mechanisms that make it easy for everyone. And our Consumer Panels want us to target our social responsibility initiatives to areas of highest need to create the biggest impact. On this page, we share case studies of how we did this in 2021-22.



£50k

Additional funding to alleviate food and fuel poverty in our region



12

Grassroots local organisations supported through our Community Partnering Fund



NEW

Pilot to bring hard-to-reach rural customers on to the grid for the first time

“Thanks to Northern Powergrid, the Green Doctor service is able to support thousands of households each year. Now more than ever with so many families struggling, this partnership is essential.”

Simon Kilshaw, Green Doctor Manager

Maximising the impact of Green Recovery investment through community schemes that deliver lasting social impact



Stakeholders told us: to ensure we engage with communities set to benefit from Green Recovery Scheme (GRS) investment and deliver a positive and lasting impact through our already embedded social responsibility programme. They also wanted us to rethink the location of our planned Seaham substation and we were asked to improve A1 EV charging facilities.

So we: furthered our £53m GRS investment to benefit communities:

- 1) We began £8.5m upgrade works at Epworth and Haxey, Lincolnshire, to ensure every home has the capacity to install LCTs. We also committed £12k to support the council's upgrade of local parks and green spaces, and promised safety talks to five schools.

- 2) In response to feedback on the site of our Seaham, Co. Durham, substation, we will submit new plans in June 2022.
- 3) As part of Green Recovery works we are also spending £0.6m to reinforce the network on the A1, reducing disparity gaps in EV charging availability.

2021-22 community initiatives as part of social responsibility programme:

- Partnered with charity R-evolution at Stepney Primary School in Hull, an area of high deprivation, providing 40 children a free bike for a year.
- £12.5k towards a study into Beckfoot Heaton School in Bradford's air pollution, and supported the build of raised beds, a pond, a school woodland track, and careers days.

Stakeholder outcomes

- £12k new equipment in Epworth and Haxey to ensure all children have access to outdoor play space in alternative locations
- Reducing disparity gaps in EV charging availability as part of the levelling up agenda for the North
- 811 school children given access to nature with new school forest track
- New pond raising aqua-biodiversity awareness
- 40 children able to access a free bike for transport, health and wellbeing

“I can't thank Northern Powergrid and R-evolution enough for choosing our school for the bike library.”

Paul Browning, Headteacher, Stepney Primary School, Hull

Electrifying off-grid farming communities to help decarbonise agriculture



Stakeholders told us: to include off-grid communities when considering rural customers, with our Off-Grid Working Group asking us to ensure there's Nobody Left Behind. Stakeholders also wanted us to support ambitions for net zero farming and protect Areas of Outstanding Natural Beauty (AONBs).

So we: developed plans to bring Coquet Valley, Northumberland, a remote part of our network, on to the grid. Its

15 farms each spend up to c.£20k p.a. on diesel – electrification would bring cost and CO₂ savings. We partnered with the MoD, the Off-Grid Alliance, Northumberland County Council (NCC) and National Parks on planning, and used drones to create models to show what adding overhead lines would look like. Piloting in 2022, the project has UK-wide roll-out potential – we plan to share learnings with other DNOs and will share outcomes in next year's report.

Stakeholder outcomes

- Identified 15 farms to connect to the grid
- Future potential 114.7kg CO₂ p.a. saving for the pilot
- Future potential £300k p.a. energy bill saving for these farmers

“In 22 years of surveying, this was the most challenging scheme I have ever worked on, but also the most rewarding. Electrification will bring greater connectivity, communication, and safety to this beautiful, remote, part of north Northumberland, while driving down energy costs and carbon emissions for the community.”

Jair Franz Wieser, Overhead Line Surveyor at Northern Powergrid

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£1m	£148.4k	-£851.6k	-£0.85	£1.0m	£693.2k	-£306.8k	-£0.31

Responding to fuel & food poverty & the cost-of-living crisis

Capacity-building grassroots organisations to alleviate fuel & food poverty



Our agile approach to our long-term Community Partnering Fund meant we could pivot our funding approach to support communities as the food price crisis began to hit in 2021.

Our stakeholders told us: to be a force for good and support community action.

So we: continued with our Community Partnering Fund and supported 12 local grassroots organisations with the help of funding administrator the Leeds Community Foundation, including:

- **Deaf Awareness:** supporting 60 members with energy literacy.
- **Harrogate and District Community Action:** delivering energy saving information to 200 older people.
- **International Community Organisation of Sunderland:** raising awareness of STEM careers to 35 Black and ethnic minority women.

After our initial round of (£100k) funding, we awarded an additional £50k to projects directly seeking to alleviate the impacts of the food price crisis on our local community. This project was led by our Social Responsibility Manager Michelle Cummings, who says, “We recognise there is a growing need for support in this area, which we will be expanding in the coming year following these pilots.”

One such project was That Friday

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£97.3k	£216.8k	£119.5k	£1.23	£97.3k	£322.5k	£225.2k	£2.32

Creating joined-up partnerships to target community support



Our SIEG and Citizens Panel asked us: to put our ambition into practice and to use a blend of partnerships and arrangements across the region, potentially making partnerships bespoke in different areas. And our Fuel Poverty Fairness panel wanted us to ensure partnerships were joined up.

So we: funded partner organisation Green Doctor to offer drop-in energy advice sessions in Darlington, run in tandem with The Bread and Butter Thing (TBBT), a charity that operates weekly hubs where local people can

access quality affordable food. We worked closely with Darlington Borough Council to set up the sessions, where residents were given energy advice including how to save money on bills and access grants, with an additional Zoom event to ensure access for all.

Feeling (TFF), which offers support and meals to people living in poverty, suffering COVID-19-induced difficulties, or living with extra mental health needs – 200 people benefited directly. A volunteer from TFF explains, “Josie is one of our volunteers. She has autism, is a mother and has been out of work for a long time. After coming to the cafe, she offered to get stuck in, and now comes to help at 9am on the day we run the cafe, sometimes joining us to gather produce on the allotment. She has had a lot of joy out of cooking for the community, making dishes such as lasagne and shepherd's pie – it's wonderful to see her pride at compliments. We have also supported her by giving her access to food produce each week as she deals with delays from Universal Credit.”



Stakeholder outcomes

- £100k of funding for grassroots organisations (in partnership with Northern Gas Networks (NGN))
- 12 community groups supported in wave one funding, details left
- 7 community groups supported in wave two funding, including: the Bradford Deaf Community Association, which supported up to 500 people living in poverty with access to a food pantry to choose food that suited their culture and faith preferences, offered top-up vouchers for energy meters, and supermarket vouchers for short-life items; and East Durham Community Development Trust, which supports people living in poverty through its emergency food parcel project FEED and food poverty programme People's Takeaway, a hot meal delivery service. We funded 750 hot meals and 600 food parcels
- **That Friday Feeling**
- 500 people were fed free of charge, receiving nourishment they may not have had for a long time
- 50 new Priority Services Membership (PSM) registrations
- New friendships, reduced isolation and increased sense of community
- Allotment gave seven men a sense of purpose who were otherwise living alone and feeling de-skilled
- Three new volunteers
- One new job created

“Community organisations have been under immense pressure over the past 20 months due to more demand and limited resources. We're grateful to NGN and Northern Powergrid for seeing the importance and value in funding them.”

Kate Hainsworth, CEO, Leeds Community Foundation

“85% of our members are worried about how they're going to pay their fuel bills. Combatting the cost of living is a vital part of our work – welcoming Green Doctor to our hubs supported our members and the wider community to find ways to make life more affordable.”

Mark Game, CEO, The Bread and Butter Thing

Reliability & Resilience



Stakeholders told us they wanted a more reliable network, but for us to balance improvements with cost efficiencies. Rural customers wanted more generators, while many customers told us that power cuts were a case of “How fast can we reconnect them?” Project Engineer Liam Foster concurs: “When we’re out on site, the overriding feeling is one of making sure we get to everyone: is everyone back on power? Is everyone OK?” Here’s a snapshot of our 2021-22 initiatives.

Reconnecting customers as quickly as possible during Storm Arwen

Stakeholders told us: reliability is their biggest priority. During Storm Arwen, connection speed and generator availability were the most frequently mentioned topics across social media and in calls to the power cut hotline 105.

So we: reached out to fellow DNOs for support. 145+ engineers and staff from

across the UK bolstered our team during the two-week relief effort, allowing us to speed up repairs and restore power faster. We redeployed power line poles to areas that were most in need, established a booster signal where telecommunications were down, and put in place enhanced communications infrastructure following the storm.

Stakeholder outcomes

- 90% of customers restored in first 48 hours, with welfare provision and alternative accommodation for 10%
- 11.5m text messages sent
- 16k outbound calls attempted, success rate of over 50%
- 334 generators (20 suitcase generators)
- £10m+ compensation issued

Improving the reliability of our network through HV & LV automation

Our Consumer Panel said: maintaining and renewing our asset base is our most significant investment. A proactive approach to preventing faults, rather than reacting to them as they occur, is cost-effective.

So we: are investing £60m into HV automation and LV automation. Investment in our fault-prediction tool Foresight will identify thousands of ‘pre-faults’ before they become permanent, while implementing further diagnostic tools will enable swifter overhead remote control delivery.

Stakeholder outcomes

- 33% reduction in customers experiencing extended power cuts lasting over 12 hours
- 20% reduction in average length of planned outages to just over 3 hours
- Development of strategy/protocol for detection and location of early faults on the LV cable network

Innovating in partnership to reduce accidental contact with the network

Rural communities told us: to be innovative in our approach to safety, avoiding danger to life and power cuts. Accidental contact happens mostly in agriculture, but we also engaged with forestry, haulage and construction, and collaborated with trade bodies.

In partnering with Northern Powergrid and facilitating collaboration, the EIC is excited about the call for innovation.

Ceena Mathew, Graduate Innovation Engineer, EIC

Stakeholder outcomes

- Created action plan to target a 50% reduction of incidents in the first few years, with anticipated 100% reduction in the long-term



So we: partnered with the Energy Innovation Centre (EIC) and SP Energy Networks to identify a prevention solution, briefing seven innovators and shortlisting three, due to present solutions later in 2022. And our annual power line safety campaign Look Up It’s Live reached 4m views.

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£500k	£504k	£4k	£0.01	£500k	£2.4m	£1.9m	£3.71

Spearheading the national campaign to increase audience reach for the Accelerated Loss of Mains Change Programme (ALoMCP)

Stakeholders told us: to use multiple communications channels to raise awareness of the ALoMCP at a national level and iron out inconsistencies in DNO messaging. Our campaign worked at a local level, but stakeholders wanted us to scale our ambition and deliver results nationally.

the DNOs to launch a multi-channel national campaign in May 2021, using paid digital and social advertising, a video, user-friendly landing page, self-serve tool to identify next steps, email campaign, webinars, events and letters.

So we: spearheaded the creation and delivery of a national awareness campaign. We partnered with specialist agency Greenhouse Communications to work with us, National Grid ESO, and



Stakeholder outcomes

- 5.2m impressions, 16k engagements, 65k clicks on ALoMCP content, and 33k visits to our website
- 13GW of compliant generation capacity secured, with additional capacity in the pipeline and on track to be compliant by 1 September 2022
- Strengthening the GB electricity network, easing balancing costs and enabling more renewables to be brought online

Enabling Net Zero



From our Future Fairness Panel to our Citizens Panel, all our stakeholders agreed: Northern Powergrid must lead by example to secure a fair and just energy transition with Nobody Left Behind, and continue our work to decarbonise our region. This section explores how we engaged and delivered in 2021-22.

NEW
£50k Net Zero Community Energy Fund

48%
reduction of CO₂ emissions in our own BCF

+17 NEW
partners for our #NetZeroSME project

NEW
Pilot to protect supply for HTR customers

Improving resilience through energy storage innovation

We have targeted investment in small-scale energy storage to boost the resilience of our worst-served communities and critical infrastructure – keeping people and systems online during power cuts while our engineers make long-term repairs.

1. Protecting the supply for 178 worst-served rural homes through an innovative pilot scheme

Our Citizens Panel and Community Energy Panel told us: to improve services for worst-served customers. They asked us to work collaboratively to develop decarbonisation plans and find novel solutions for a resilient network, while prioritising vulnerable customers such as those living remotely, and who experience weather related power cuts more frequently.

is served by a single 60km overhead line span. It can take a long time for engineers to reach the village in the event of a power cut. Microresilience will keep the power on by switching supply over to a battery, buying vital hours while our engineers restore

power. In 2021-22 we developed the pilot programme, partnered with the parish council to agree the location, and ordered lithium-ion batteries (which have a 12- to 18-month lead time) to ensure we are pilot-ready in 2023. We will report on progress next year.

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£210k	£0.00	-£210k	-£1.00	£210k	£48.9k	-£161.2k	-£0.77

So we: designed Microresilience, a pilot to install small-scale energy storage in the far reaches of our network. The village of Byrness, Northumberland,

2. Maintaining vital transport links by protecting power supply at the iconic NewcastleGateshead Swing Bridge

Stakeholders told us: to target critical infrastructure sectors such as transport in our innovation for net zero plans, future-proofing their resilience against the increasing climate change threat.

vehicles p.a. Its infrastructure failed in August 2021: should it fail due to a power cut on one of its 200 swings p.a., it would both delay river traffic and cause major vehicle traffic jams in both Newcastle and Gateshead. Our pilot will ensure the bridge keeps swinging, and create crucial learnings to roll out at key transport sites across our network. In 2021-22, we partnered with Smarter Grid Solutions to design the pilot and

ordered long-lead components. We will report on progress next year.

Stakeholder outcomes for 1. and 2.

- Created action plan to deliver 12 hours of back-up power for
 1. a vital city network link serving 800k customers p.a.
 2. 178 worst-served rural homes

Supporting emerging Local Area Energy Plans (LAEPs) through increased engagement with LAs & collaboration with gas distribution peers

Local authority leaders told us: they want to develop LAEPs but lack resources and expertise. LAEPs are not yet well-defined and need energy network involvement early in the process and to factor in pan-agency collaboration.

team of LAEP advisors to support local activity. At the same time, we delivered on commitments within our charter with NGN to help the local governments we serve plan for the transition to net zero.

Stakeholder outcomes

- Supported two areas in our network to begin development of five LAEPs
- Delivered three LAEP workshops with NGN to date (2020-22)
- Supported four York and North Yorkshire LAEPs

So we: strengthened ties between LAs, holding 70 meetings. We also used our community connections to secure participation of York Community Energy and Zero Carbon Yorkshire groups in the Technical Advisory panel for North Yorkshire’s LAEP team. And we developed a proposal to recruit a

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£960k	£4.4m	£3.4m	£3.59	£2.3m	£12m	£9.8m	£4.28

Publishing our decision-making rationale to create transparency around 'flexibility first'

Stakeholders told us: to help flexibility providers in their investment decisions by giving clarity on timeframes, decision drivers and methodology, asking for long-term visibility on flexibility decision making. The Energy Data Taskforce set out a compelling vision for presumed openness, using data to support flexibility markets.

So we: published our assessment of options and proposed intervention at two rural substations, Normanby by Stow, Lincolnshire, and Burton Pidsea, Yorkshire, and identified an alternative low-cost, asset-based solution. We invited flexibility providers to share views through our [Network Options Assessment](#), publishing transparent calculations estimating customer flexibility vs. traditional reinforcement: the potential cost implications of flexibility would, in this instance, not be an efficient option for our customers.

Stakeholder outcomes

- Greater transparency around our flexibility-first decision making
- Avoided the risk of flexibility procurement being inefficient or detrimental to long-term markets
- Undertook a process for identifying flexibility-first solutions that we anticipate will deliver £155m cost saving net benefit to customers between 2023-28

Responding to the needs of community energy groups

Stakeholders told us: to support them in starting community energy projects. Via our dedicated forums, stakeholders showed strong interest in community energy development, but asked for greater guidance on both approaches to setting up community energy schemes and understanding related network capacity information. Customers also wanted us to increase the number of Community-Based Energy Advisors we planned on hiring, and for us to change their remit.

So we: engaged significantly over the course of the year, reaching 1.6k+ stakeholders over 30+ events. We led an engagement campaign that comprised digital and in-person conversations at group and individual levels, held twice-yearly forums and a dedicated stakeholder panel. Plus, in response to ongoing feedback, we tailored our forums to topics that community energy groups wanted to discuss, increased growth in organisations participating, presented our work at 15 sector events and launched a new £50k Net Zero

It's clear Northern Powergrid is taking its role as an enabler of community energy seriously. The company is demonstrating its commitment to delivering meaningful environmental, social, and local economic benefits across Yorkshire and the North East and we look forward to working with them to make that happen.

Emma Bridge, Chief Executive, Community Energy England

Stakeholder outcomes

- **NEW** £50k Net Zero Community Energy Fund in Q1 2022
- 2.1k+ unique hits on our [Community Energy webpage](#) (58% increase since 2020-21)
- Two community energy groups included in York & North Yorkshire Local Enterprise Partnership's LAEP Technical Advisory Panel
- **NEW** Delivered two training sessions upskilling 80 people (sessions rated 8.5/10 and 9.1/10), with two further sessions planned for 2022
- 170+ people receive quarterly newsletters (increased from 17 in 2020)
- Four-fold increase in the number of community energy groups we're aware of since 2020, to 80+
- Revised remit of Community-Based Energy Advisors and increased recruitment target from two to six
- 6k+ stakeholders educated about community energy support since 2020

Collaborating to equip SMEs with the tools to achieve net zero goals

Stakeholders told us: the Federation of Small Businesses (FSB) identified a strong need for targeted advice for SMEs to help them achieve net zero as they found existing advice fragmented.

So we: continued to play a leading role alongside the Broadway Initiative, FSB and British Chamber of Commerce in delivering the [Zero Carbon Business Portal](#). In 2021-22 this partnership expanded dramatically, bringing together utilities with major commercial and industrial trade federations and organisations. We are developing a shared strategy to reach at least 2m SME users and established an oversight board that includes us, the Institute of Directors (IoD), HSBC and NatWest – the first coalition of this magnitude to help SMEs reach net zero. We are also involved in quarterly BEIS ministerial meetings to ensure national net zero commitments are met across industry. Current priorities include developing tailored advice to SMEs' specific needs, expanding our list of sector guides, improving links with local organisations, and providing advice on funding.

Stakeholder outcomes

- **NEW** 17 new trade partners
- **NEW** #NetZeroSME oversight board
- **NEW** Shared strategy in development to reach at least 2m SME users
- Quarterly BEIS ministerial meetings

#NetZeroSME
Accelerating UK SMEs' transition to Net Zero emissions. Join us.

The #NetZeroSME partnership expanded dramatically this year, with banks and other major organisations coming on board to support this important resource. We are committed to helping SMEs – 99% of UK businesses – drive greater carbon savings.

Helen Priestley, Stakeholder Engagement Manager

Accelerating the uptake of low carbon technologies (LCTs) by supporting installers

Stakeholders told us:

- To create a channel for them to engage with us on how to streamline the uptake in LCTs as more people transition to EVs and heat pumps. LCT stakeholders are on the front line of delivering decarbonisation into our homes, businesses, and communities, and as an enabler of net zero we must ensure that connections process is as smooth as possible.
- There was a recognised knowledge gap that could prevent installers from meeting net zero targets. LCT installers told us that they need more support and technical advice from us, to help them educate others in their industry about evolving technologies and sector-led best practice.

So we:

- Established in Q3 2021 our LCT Working Group and set clear objectives to ensure that the national and regional LCT process continues to evolve in a positive way for customers and network users, provide a platform to openly discuss any challenges and to offer solutions to help improve the processes, and provide expert and informed feedback to Northern Powergrid and the wider Electricity Networks Association.
- Committed to developing an online knowledge hub with technical guidance and educational articles that can be shared with stakeholders' customers and peers. Our working group steered content development to ensure that it was developed to meet stakeholders' current and future needs.

Leading by example to tackle our business carbon footprint

Stakeholders asked us to prioritise our BCF, so we set goals and had our emissions reductions targets verified by the Science-Based Targets initiative (SBTi) to provide a pathway to reduce our emissions by a minimum of 4.2% year on year

Delivering 48% reduction in our BCF through targeted improvements

Stakeholders told us:

- To encourage the use of EVs and charging facilities, bring EVs into the company car scheme, and introduce EVs to our fleet.
- Find viable alternatives to SF₆ as soon as possible, asking us to 'think smart' by replacing old equipment with new tech.
- To 'lead by example' by ensuring contractors reduce their emissions at the same rate as us, prioritising ethical standards in our supply chain.
- Colleagues asked us to enable sustainability in their work and commutes through remote working practices and reduction of travel.

So we:

- Introduced 33 new EVs and eight hybrid vehicles to our fleet, delivering a 17% reduction in vehicle emissions.
- Built on previous innovation roll-outs and our achievement of reducing SF₆ by 32% since 2015, by launching a pilot of 132-kilovolt non-SF₆ switchgear.
- Surveyed our supply chain to find out progress on net zero, their future forecasts, and barriers they were encountering. Through collaboration we can bring everyone forward, and we've begun by developing our new responsible procurement charter, due for publication in Q3 2022.
- Investigated ways to maintain the reduction in business mileage originally driven by COVID-19. Our mileage is likely to increase from current levels, but we are continuing to incorporate technology, and are targeting a 15% reduction by 2028.

Stakeholder outcomes

- **NEW** LCT Working Group with 15 stakeholders recruited
- 18 questions raised and answered across working group meetings
- Gathered expert feedback on the existing processes, most recently on a new online LCT connections applications form, ahead of go-live
- 23 topics prioritised for hub content creation, based on feedback
- Developed and launched, with stakeholder insight, a comprehensive and easy to use LCT knowledge hub

We welcome a regular working group that offers opportunities to share our experiences and challenges, with the Northern Powergrid team alongside.

James McKemey, Head of Policy and Public Affairs, PodPoint

1-year SROI				5-year SROI			
Total cost	Gross benefit, PV	NPV	SROI	Total cost	Gross benefit, PV	NPV	SROI
£307.4k	£158.1k	-£149.2k	-£0.49	£1.1m	£915.9k	-£191.8k	-£0.17

As an anchor organisation we employ 2.7k+ colleagues, a similar number of contractors, and spend c. £1m a day in our community and supply chains. It is vital that we put our internal operations under the microscope and show local leadership about our BCF.

Gordon Walker, Environmental Manager



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