



Part 2

Delivering meaningful outcomes for our stakeholders and customers

2018-19

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SECV Part 2

Delivering meaningful outcomes for our stakeholders and customers 2018/19

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Stakeholder engagement is a prime mover in our business planning process; it plays a crucial role in establishing our strategic priorities. At the start of our annual cycle, it helps us make better-informed decisions about our priorities for the coming year and beyond. The following pages detail how this has created a positive impact by influencing the services and outcomes we have delivered.

We work hard to understand the long-term trends and challenges that stakeholders are grappling with so that we set the right

priorities. Our engagement has highlighted business-to-business account management, social inclusion in the transition to DSO and the EV challenge for Local Authorities as key areas our stakeholders would like us to focus on.

We have also worked with stakeholders to improve the way we deliver our core services. In particular, we are aware of the need to play our part in responding to the impact of Universal Credit on many of our more vulnerable customers; our partnership with Citizens Advice has been a crucial part of our contribution to that effort. Elsewhere, we worked with the NFU to develop our SHOCK video in response to a very concerning increase in agricultural cable strikes that occurred at the time of the hot, dry summer and the condensed period for the harvest that followed.

The more we understand our stakeholders and customers, the better we serve them. Putting the people who make front line

service delivery decisions closer to the customers that they affect improves our understanding of the local requirements and creates more opportunities for our work to benefit our communities and the whole region. We recently restructured our field operations team to put even more decision-making into the local operating areas. Similarly, our approach to recruitment focuses on drawing talent from rural and socially deprived communities so that our organisation better reflects the diversity and makeup of the communities we serve.

Ultimately, we always aim to have a positive impact on our communities. I believe that our approach to engagement is the key to achieving this. I hope you see this reflected in the work detailed in this submission.

Phil Jones
President and CEO

2018/19 headlines

185
meaningful outcomes
for stakeholders

24/7
Better informed
customers through
extending texting
service to 24/7,
365 days of the year

Over £3m
Increasing investment
in tower block
refurbishment from
£7m to £10m-£15m

SHOCK!
New national
agricultural
safety education
tool developed

196
potential power cuts
prevented, minimising
customer disruption

2019 priorities

**Co-creating future optionality
and cost benefit approach
for core service provision with
our customers**

**Engaging widely on the role
of data, to support our
stakeholders' needs with
the future energy system**

**Mapping the social
inclusion roadmap for
future energy scenarios**

NEW

CASE STUDY

Enhanced engagement for business to business relationships



The issue

Enabling our transition to DSO requires greater engagement with and understanding of business customers' needs. From research and feedback, we are aware that their expectations are increasing as to how they would like to engage and the scale of what they would like to discuss, with an emphasis on shared understanding and collaboration.

What we did

We have established a cross-business team to deliver a pilot project throughout 2019 to inform our future approach to business

to business relationships and potential account management models, in responding to our stakeholder's priorities and supporting the DSO transition.

To date we have focused on:

- ▶ Gaining a better understanding of our business customers' needs through:
 - **In-depth workshops with Durham County Council** to determine current and future needs and our respective priorities and challenges.
 - **20 independent telephone interviews** with Local Enterprise Partnerships (LEPs), local authorities and major energy users to better understand satisfaction, expectations and areas for improvement.
- ▶ **Mapping existing business to business relationships**, resource requirements and the gaps between this and our stakeholder expectations.

This learning has confirmed that there is no 'one size fits all' account management approach. We are testing a model for improving relationships (from June 2019) to examine options and how we might

scale this up. We have deliberately chosen partners who would have the most complex requirements in order to build something that is readily replicable within stakeholder groups who need this the most.

Outcomes and benefits

- ▶ **Detailed understanding** of business customers' needs informing current and future plans.
- ▶ **Single point of escalation** in place for large connections customers.
- ▶ **Commercial model for EV support** piloted with Leeds Local authority.
- ▶ Dedicated **"MP hotline"** established in response to feedback, enabling them to raise queries directly with our leadership team.
- ▶ **Partnership charter** in place piloted with Durham County Council and five projects underway including a review of developers' planning journey across Durham CC and Northern Powergrid and sharing data, information and activity to support vulnerable customers and communities, and identify areas for joint working.

Measuring quantifiable value and benefits to stakeholders and customers

All our services and the improvements we make to them are paid for by customers, so ensuring we are investing in the right areas and making decisions which deliver the best outcomes in the most efficient and effective way is essential. Measuring the impact of the decisions we make and the improvements we deliver as a result of stakeholder engagement is a complex task which we continually strive to improve. Through multiple measures we are able to gather a more robust picture of impact to help ensure we are doing the right thing. Every project is different and many of the outcomes and benefits from the activities are qualitative. However, we always strive to quantify and where appropriate we use a number of tools to identify financial outcomes and conduct cost benefit analyses, whilst being careful not to overstate impact based on assumptions, for example:

- ▶ Some of our third sector partners are able to provide Social Return on Investment (SROI) based on robust understanding of the measure and how it applies to services they supply on our behalf. Citizens Advice report £12.42 social benefit for every £1 invested.
- ▶ For some initiatives there is a direct or assumptive financial benefit to customers through interventions like Green Doctor (£61.79 per household) and Energy Heroes (£11,500 per school).
- ▶ Using industry agreed metrics; for example, applying Health and Safety Executive methodology to calculate the impact of a fatality (£1.79m) when developing new safety education materials.
- ▶ Our innovation project "Measuring the Societal Impact of Network Activities" in partnership with Northumbrian Water,

Yorkshire Water and Northern Gas Networks looked at the adverse effects of our essential works on the social environment in which they are undertaken; like traffic congestion, noise, dirt and dust when we are excavating roads. The report in March 2018 gave us some indicative values which we can use to assess and compare proposed intervention, new technologies or approaches.

- ▶ Sometimes the measure may be the changes we make, enabling partners to realise their own or wider regional outcomes and benefits, for example, the amount of estimated inward investment or the number of jobs created.
- ▶ Our use of these quantification methods enables us to make better informed decisions and helps to ensure our activities deliver value for our customers.

Sense checking value at an industry level

In addition to our own priorities research, this year we partnered with all five UK DNOs to conduct prioritisation research with domestic customers which placed a financial value on a set of typical service improvement statements. 1,216 customers were surveyed, 163 within our area and asked to "trade off" the statements. Based on the average annual bill, a hypothetical financial value (not a cost to serve) was then applied to each statement.

Whilst this is a relatively small sample of our specific customers, the overall prioritisation largely aligns to that of our representative research and the outcomes help us to sense check that the hypothetical value supports value for money for customers in terms of what we are investing in these areas.

Significant willingness to pay (WTP) was demonstrated for each of the service packages, but most for "Customer Support" and "Vulnerable Customer Support" packages.

From this research we have conducted a cost benefit analysis using the customer values derived from the research against the cost examples which were tested within this submission at both headline and service improvement specific level, for example:

Service package	Outcomes/benefits delivered	WTP per customer per year		NPg cost to provide per customer	Cost/ value analysis
		£	% of bill		(indicative value divided by cost per customer)
Vulnerable Customer Support including targeted recruitment campaigns, partnership referrals, dedicated PSR support, fuel poverty initiatives and strategic partnerships	Targeted campaigns resulting in 46% increase in health and mental health PSR registrations and 485% increase on the overall 2018 average; £709,755 direct savings for customers through wider fuel poverty support programme	£6.15	0.91%	25p (total £959,251)	£25
Raising customer awareness of the national power cut number and making it easier for customers to know how to contact us	Targeted communication to 2 million customers in areas of limited knowledge of us, resulting in an increase of 24% in awareness, with 68% of customers now contacting us via 105	£2.58	0.38%	0.3p (total £13,463)	£747

Whilst it is reassuring that customers place a higher indicative value on the services we provide than the cost to serve, we always strive to find the most efficient way to deliver these services, as we know that keeping costs down is an overriding priority for us all.

Customer perceptions

Our research highlighted this year that:

- ▶ 66% of customers and stakeholders felt that the service we offered was value for money, this increased to 76% in people aged 56+ and 72% for vulnerable customers.
- ▶ 52% of domestic customers feel the amount they pay to their DNO is the right level.

- ▶ Despite high levels of awareness of who we are, 67% of people surveyed had not experienced a service.

From this, we have challenged ourselves to better educate our customers, particularly those who have not received a service, around our cost breakdown. In 2019 we will take the learning from our smart metering education resource (page 10), which we

developed with our stakeholders, to develop a similar resource which explains our business, our services and the associated costs in a way that stakeholders and customers can readily understand. Our aim is to use the resource in all our future research to ensure we have feedback based on well informed understanding of the value of our services.

We are well placed and feel a responsibility to play a broader role in our region, above and beyond our core services. As a significant industry player in energy, we can support infrastructure and economic development, complementing the Northern Powerhouse's goals of more renewable energy generation across the North of England and boosting innovation and enterprise, and help to tackle

broader social issues such as the growing skills challenge, fuel poverty, economic inequalities and the impact of climate change. Across our operating region, stakeholders are looking at how to bring inward investment and development to their cities and towns, and we have a crucial role in working with them through greater integration and partnership working.

Thinking beyond the asset

EMBEDDED

At present, load growth in Durham city centre is restricting ambitious infrastructure developments which would enable new restaurants, cinemas, office space and housing stock.

Aligning our plans through closer working with the development and regeneration team at Durham County Council, we have agreed a proposal to invest approximately £1.2m to install two new high voltage cables into the city centre, increasing capacity and resilience. This close cooperation has improved our understanding and approach to support future developments and has directly affected the route of the new cables.

Outcomes and benefits

- ▶ Enabling Durham County Council's aims to **secure continued economic growth and investment** and high-quality jobs for local people.
- ▶ A collaborative plan that provides the most **efficient upgrade** required for current and future growth.
- ▶ **Easier and cheaper connections** for developers and **less disruption for residents** in Durham.
- ▶ Supporting the **expansion of Durham University**, one of the biggest employers in the city.

NEW

CASE STUDY

Beamish Living Museum



The issue

Beamish, the Living Museum of the North, is a significant tourist attraction in North East England, employing over 400 people locally and attracting over 700,000 visitors per year.

The museum is investing £18m in the building of a new 1950s style village to increase visitor numbers but requires an upgrade to the local electricity network to support current and future expansion plans.

What we did

Working closely with Beamish, we agreed on a programme of upgrades for the local network which met our requirements but also increased capacity to allow for future load growth; adding a second connection to the local electricity network to improve reliability at the same time. The work has been delivered in tandem with the museum's development schedule and was completed before the opening of the new attraction.

Outcomes and benefits

- ▶ Increasing network capacity and resilience, helping to deliver the new visitor attraction as planned, creating **100 new jobs including 50 new apprenticeships for the local community**.
- ▶ **Bringing in an estimated 100,000 extra visitors to the local area**. The increased tourist spend will benefit the surrounding businesses and the regional economy.
- ▶ Improved network resilience in the local community which should lead to **fewer, shorter power outages** for customers and local businesses.

Maximising the opportunities to support transport infrastructure

ENHANCED

We are working collaboratively to support the successful delivery of a number of major transport infrastructure projects:

HS2 will connect Leeds with a high-speed rail network running south.

The Trans-Pennine route upgrade will dramatically improve services between York, Leeds and other parts of the North.

Responding to the complex needs of our stakeholders involved in the HS2 project, early engagement has led us to assign a dedicated senior point of contact to facilitate discussion between Arup+, Northern Powergrid and HS2 Ltd, and has helped establish a good working relationship between all parties as early as possible in the planning stages of the project.

We are taking this learning, and applying it to other investment works such as the Trans-Pennine route upgrade, offering the same structured approach to Network Rail.

EMBEDDED

Improving reliability of the Newcastle Metro network will deliver better services to 40 million customers per year.

Greater collaboration with Nexus, and a pilot testing programme, has unlocked a long term solution, enabling the replacement of switchgear across the network at 10 stations using new technology that is more cost efficient and easier to install.

This large scale programme provides a future proofed system for Nexus and fewer future outages for Metro users.

Outcomes and benefits

- ▶ A much deeper understanding of what is needed to deliver projects and how this can **reduce costs and timescales** to benefit our region's customers.
- ▶ Enabling stakeholders to **budget forecast more effectively** makes complex projects easier to implement.
- ▶ Supporting the **redevelopment of Leeds railway station** – the busiest station in the North of England.
- ▶ Enabling HS2, predicted to deliver **40,000 additional jobs** and a reduction in journey times from Leeds and Sheffield to London by 40 minutes.
- ▶ Enabling the Trans-Pennine Route upgrade to deliver **13m extra seats per year and £3bn of investment to the region**.
- ▶ **Keeping 40 million passengers moving on the Metro in the North East** – keeping customer costs down and minimising disruption.

In 2019, building on this learning we will deploy a dedicated project lead to coordinate with local stakeholders in Bradford as we undertake £30m of planned investment.

Supporting Local Energy Strategies with LEPs across the region

We have reached out proactively to all of our LEPs to support the development of their energy strategies that will set out how each local area will achieve a secure, affordable energy supply that also reduces carbon emissions to help combat climate change. Through sharing information around generation and demand availability, DSO and flexibility plans, smart technology deployment and innovation projects with all LEPs in our operating region we are:

- ▶ Supporting their local infrastructure needs, including strategies for electric vehicle charging.
- ▶ Discussing issues and opportunities around community energy projects, promoting our Community Partnering Fund and how their strategies take into account vulnerable customers.
- ▶ Discussing their decarbonisation plans and how we can support these by integrating our work plans.
- ▶ Advising how their strategies can take into account climate change adaptation and resilience to extreme weather patterns.
- ▶ Supporting the development of strong and well-informed plans through our membership of a number of LEP energy strategy panels, such as the Leeds City Region LEP.

Planning for electric vehicles

Local authorities, addressing clean air targets to reduce particulate matter pollution by 50% by 2025 and their social responsibility to encourage low carbon transport, are exploring EV charging and connections strategies for their fleets and local communities. This need is driving an increase in enquiries from local authorities about the possibility of installing new chargers, and our response has been to simplify and standardise the process for our stakeholders.

We put in place a structured engagement approach, delivering two EV workshops targeted at local authorities (with 83 Council Officers and staff attending), to foster understanding and share learning. Through engagement and feedback, we now understand that different council departments require very different information to deliver successful EV charger projects, and that knowledge has led to an improved process within the business that should speed up our feedback to councils in future.

In response to this feedback, we are investing £1.1m from the Network Innovation Allowance to develop an **online EV budget estimate tool**, hand-in-hand with local authorities so that it meets their needs; giving immediate budget estimates, enabling them to assess where there are existing electricity assets and available electricity capacity in their locality. We are currently testing the tool with Local authority partners at planning sessions to gather their detailed feedback to refine it further.



Outcomes and benefits

- ▶ Strengthening the **coordinated regional response to changes in the energy landscape**.
- ▶ **Increased innovation collaboration** with regional partners, e.g. Humber LEP as a collaborator for our planned Vehicle to Grid innovation project.
- ▶ Improved ability for local authorities and LEPs to **attract business investment and talent** to the region.
- ▶ In Leeds alone the strategy will help deliver:
 - **53% reduction in emissions** by 2036.
 - **£11bn increase in annual economic output** by 2036.
 - **100,000 more jobs** by 2036.

Outcomes and benefits

- ▶ The engagement programme means we have been able to deliver **EV connections information and training** to a broader pool of Council Officers from across our region, giving them a clear understanding of how we work and what information we require from a connections request.
- ▶ We have a **better understanding** of their needs and how best to package information to help their long term EV strategic decisions.
- ▶ **Saving councils costs by moving planned EV connections to more accessible areas of the network** and future proofing their planning decisions; minimising the need to reinforce the network.
- ▶ Saving customers money through more cost-effective EV connections and saving time; **shaving up to 20 days typically off the process with real-time estimates**.

NEW

CASE STUDY

Partnerships with technical colleges



The issue

Future skills is an emerging priority for our stakeholders from our priorities research, challenge at our stakeholder summit and

round table debate. The EU skills strategy states that in future: “Many recruits [into the job market] will need more advanced technical skills as the UK moves towards a smart energy system.”

However, the UK as a whole, and the energy sector, faces a significant skills challenge: 36% of current vacancies in some areas are proving hard to fill due to a lack of skilled applicants – the highest recruitment deficit across all sectors in the UK.

To compound the skills shortage, by 2030, there is projected to be approximately 46,000 fewer people in the 16-64 labour-force age-groups in the Northern Powergrid regions.

What we did

It is vital that we have the right number of highly skilled staff to maintain and develop our network. We are encouraging the

development of potential recruits through partnerships with further education colleges, including Gateshead College, Tynemet College in North Tyneside and Bradford College.

Through a partnership with us, the colleges deliver maths and electrical engineering courses to students which are directly applicable to the positions for which we will be recruiting in relatively large numbers until 2023.

Outcomes and benefits

- ▶ **A pipeline of skilled college graduates** in the areas of our network where they are most needed.
- ▶ **Skills are pertinent to current and future network needs.**
- ▶ **An approach which can be replicated with other colleges across our region.**

No customer or community is precisely the same, and their needs can change in an instant and over time, dependent on circumstance. This year, our customers and stakeholders have experienced climate change, weather adaption, political, policy and broader environmental challenges and events impacting all the communities we serve.

Through our data, annual engagement cycle and approach (part 1, page 3), we have developed a greater understanding of our customer in terms of their complexity and challenges – current and future. Understanding these needs means we are far more agile in our engagement and the support we can offer as a result.

Getting closer to our customers

This year, through a programme of customer listening groups, customer research, stakeholder and customer feedback, we have introduced new and improved services supported by a culture of continuous improvement and Executive leadership supporting **64** customer improvement actions, including:

ENHANCED

Better informed 24/7, 365 days of the year – Focus group feedback led to a change in our pro-active texting approach which now continues throughout the night. From this, we have improved all customer messaging; text, social media, IVR and our website.

NEW

Supporting business customers around complex issues – It is hard for large energy users to navigate the changing landscape of electrical charging reform, which may have significant financial implications for them. Recognising that this group is time poor, we ran a series of different engagement opportunities; webinars, one-to-one briefing panels and bilateral meetings. We also extended representation at our Stakeholder Panel to better reflect large energy users.

NEW

New online instant quote service – That supports our customers and stakeholders to undertake property demolitions safely and further renovation works in reduced timescales.

ENHANCED

Streamlining our connections processes – Customers requiring new connections for new properties or re-generation projects told us they wanted to see a reduction in the length of the process – which may cause delays and increase costs.

SCALED UP

Increasing awareness of the 105 number – We developed targeted communications to two million customers, particularly in areas with limited knowledge of us, to educate around the 105 number so we can be there if they need us.

NEW

24 hour Rapid Response team – Customers and contractors asked us to review the process for booking secondary appointments for repair works identified by our Smart Metering contractors. We are trialling our 24-hour Rapid Response team booking follow-up appointments with the customer at the time of completing their work to save customer time.

Outcomes and benefits

- ▶ Better informed customers **24/7, 365** days of the year.
- ▶ A reduction in processing time from **29 days to 0 days** for disconnections.
- ▶ A **23.3% improvement** in time from 50.5 days to 38.7 days for new properties or re-generation connections.
- ▶ Awareness raising has resulted in an increase of 20% usage, with **70%** of customers now contacting us via 105.
- ▶ Saving our customers time, speeding up the smart metering installation process **from over 40 days to around 7 days**, with the potential to improve resolution times on over **10,300 faults per year**.
- ▶ Enabling the national roll out of smart meters with **minimal disruption to customers**.

“After the work completed at my property, I could not have been more pleased with every single one of the work team. They were all very polite and professional. Kept me informed, when needed. They were here over a week and there was a lot of disruption, but they could not have done a better job.” – Northern Powergrid customer

Getting closer to our communities

Our area encompasses six operating regions, each with a wide range of stakeholders, issues and needs. Each area has its own unique qualities and characteristics, and through the increasing use of data and engagement, we are increasing our understanding and appropriately tailoring our response to meet the varying needs of our customers.

Delivering locally driven, holistic services and engagement – Historically, our teams (new connections, repairs, and overhead line work and plant maintenance) have been managed as separate business units, but our stakeholder research told us that this approach meant it is often challenging to

see a fully joined-up picture of our work in a given area.

In response to the priorities research and preparing for DSO, all operational activities have been brought together, so that each area will now have the ability to deliver all work types, driving faster and more consistent operational decision making to support our customers more effectively. The new roles of General Managers and Customer Service Managers will focus on customer needs and stakeholder priorities; through this new model, customers and stakeholders will have access to a clear, holistic picture of exactly what work is taking place and planned for their area.

Outcomes and benefits

- ▶ **Aiding Local authority strategic planning**, identifying synergies between their planned investment work and ours.
- ▶ **Clear, local points of contact** in Northern Powergrid who are responsible for their area and the complete work programme.
- ▶ Local understanding allows us to better tailor and coordinate across all work and **minimise customer disruption**.

ENHANCED

CASE STUDY

Adapting plans to reduce the impact on communities

The issue

Resilience to flooding remains a significant priority, with many areas in our region such as York, Hull and Calderdale still recovering from previous flood events and the increasing threat of future events. With a complex and major disruptive programme of substation replacement work planned to take place in the town centre of flood-prone Hebden Bridge, it was important we minimise the impact on a vulnerable town.

What we did

Through an enduring partnership with Calderdale Council, the Environment Agency,

the Canal and River Trust, ‘Slow the Flow’ and others, we are delivering complex flood defence measures and community resilience ahead of schedule for communities and businesses in flood-prone areas.

In planning the work, our team agreed on an enhanced programme of engagement with Calderdale Council to respond directly to community needs. Working closely with local partners, we have been able to coordinate our works in a way that reduces disruption to residents, businesses and road users. We held a series of briefings for local councillors and public drop-in events, resulting in our teams working flexibly and

responsively to move the proposed location of a new substation to one that was less prominently sited and more agreeable to the local community in direct response to their request.

The outcomes and benefits

- ▶ Accelerated substation relocation achieved to **minimise customer disruption**.
- ▶ Revised location of substation with less visual impact on historic town.
- ▶ Realised **efficiencies of £50,000** – money that will now be re-invested into future local schemes.

NEW

CASE STUDY

Looking after vulnerable communities



REPLICABLE

The issue

Since the Grenfell tragedy, many local authorities have accelerated their tower block refurbishment programmes. We are working collaboratively to understand how we can support and enable this, as well as planning our upgrade works so that we cause as little disruption as possible. The nature and age of tower block housing mean that they are in some of our most deprived areas with high proportions of the top three vulnerabilities of **health, poverty and isolation** and these communities that can least afford disruption to their energy supplies.

What we did

We are committed to replacing the rising and lateral electrical mains within 125 high rise buildings across our area before 2023. As part of this programme, we approached Leeds City Council's Tower Blocks Steering Group to assess whether we could align our work with its refurbishment activity. This pre-planning resulted in a review of the specification of our entire refurbishment

programme to include more buildings (232) and the deployment of advanced protection equipment on rising mains systems where possible.

Using our social and vulnerability data, we identified the vulnerability levels in each of these communities, and the current levels of registered PSR customers, to identify opportunities to deploy an enhanced community engagement and social programme to provide additional support for tenants as a **blueprint for future projects**.

In anticipation of the Leeds scheme commencing in mid-2019, we developed and deployed a direct mail and radio campaign targeting **5,000 addresses in the most vulnerable and hard to reach areas** to inform customers about the benefits of signing up for our Priority Services Register (PSR) before the refurbishment takes place. We have also arranged for **11 local One Stop Community Hubs** to support us by displaying posters and application forms, helping people fill them in if required. The next steps will be offering appropriate community support in addressing broader social issues and tailoring support for vulnerable customers as the work commences.

Activities included:

- ▶ Engaging with Leeds City Council and One Stop Shops (community hubs which support residents).
- ▶ One Stop Shops were sent application forms and posters and Northern Powergrid volunteers ran drop-in sessions.
- ▶ All properties door-dropped with leaflets encouraging residents to apply to go on the PSR.
- ▶ 3-week local radio campaign.

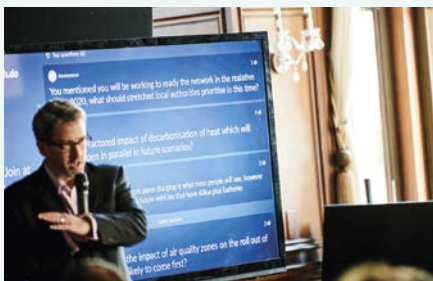
Expected outcomes and benefits

- ▶ Maximising resources, avoiding duplication and minimising disruption to tenants:
 - Demonstrating we are responsive by changing our approach following feedback from the council.
 - Increasing investment from **£7m to between £10-£15m**, enabling an increase in the number of buildings refurbished from **125 to 232**, doubling the number of customers who benefit, from **7,000 to an estimated 16,000** across the region.
 - Refurbishment work will install new equipment and make it much easier to have new smart meters fitted.
 - Collaborative approach supports future energy load growth from residents, as the work will coincide with Local authority work to reduce the power needs of the building, delivering on their decarbonisation strategy.
 - PSR targeted recruitment campaign **before work begins** enabled greater understanding and more proactive response to individual needs and an increase in the number of PSR registrations in those areas.
 - Opening up **direct lines of communications to the most vulnerable** through PSR prior to infrastructure works commencing.
- ▶ We will roll out the community engagement model to other capital investment schemes affecting vulnerable communities.
- ▶ We will apply learnings to other tower block refurbishment schemes taking place across our area between 2019 and 2023.

NEW

CASE STUDY

Responding to climate change – Collaborative Fleet thinking



The issue

Transport and heat are now the most significant sources of harmful greenhouse gas emissions, and this is reflected in our decarbonisation strategies as well as those which our stakeholders are working towards. In 2018, the Government committed to a new plan, "The Road to Zero", with the ambition that the majority of cars sold by 2040 should be electric or hybrid.

What we did

We are working closely with local authorities to explore ways in which we can support the transition to greener transport. As well as responding to individual Local authority queries this year, we approached the issue proactively by hosting a series of EV workshops and making this a crucial part of our stakeholder summit in December 2018. These events have provided valuable insight into the diverse needs of individual local authorities and their different departments.

As a result of our summit event, we have an emerging collaboration with Leeds City Council, working together on the rollout of EVs across our respective fleets using mutual insight to pave the way for a timely and trouble-free transition. This involves us advising the council on the appointment of a new fleet supplier, as well as providing guidance on how to set up an associated

depot charging infrastructure. We are also inputting into their policy for reimbursing employees who charge their company vehicles via their home metered electricity supplies.

The outcomes and benefits

- ▶ We are working with Leeds Council to share expertise on delivering an EV fleet of vehicles on a large scale. Leeds' own strategy aims to **transition its fleet to Ultra Low Emission Vehicles by 2025**.
- ▶ Helping the council to deliver on government-backed proposals that almost every car and van be a **zero emission vehicle by 2050** and that **60% of new cars must be electric by 2030** to meet greenhouse gas targets.
- ▶ **Improvements in air quality** across the city as part of the introduction of a Clean Air Zone for the city.

Responding to policy, weather and wider environmental changes

There are a host of different external factors impacting our stakeholders, and we have a responsibility to understand what these issues are and by working together help to negate or minimise any negative impact on our customers where possible.

Agile response to weather and broader environmental challenges

Last year's unusual weather conditions had a significant impact on our time poor and hard to reach agricultural stakeholders. Extreme snowfall and prolonged hot, dry weather led to a constricted growing season and greater time pressures for farmers.

We have seen a worrying rise in the number of accidents involving farmers and overhead power lines following a consistent downward trend.

Number of incidents



Declining from 34 incidents in 2014 to 17 incidents in 2017 (a 50% reduction).

There has been a spike of 31 in 2018.



With 42,200 people working on farms in our area, keeping them safe is a key priority.

In partnership with the National Farmers' Union (NFU), we reviewed our approach, moving to a deeper level of engagement to address the challenges of safety, environment, and resilience, not just to raise awareness but to **educate a range of hard to reach stakeholders and customers.**

We have used our engagement with the NFU and other agricultural stakeholders to set ourselves three objectives; **reducing animal welfare incidents, increasing the reach of our safety advice to farm workers and seasonal workers and finding effective ways to educate young farmers, through:**

NEW

Building strategic understanding

– Throughout 2018, a cross-disciplinary team led by our Executive attended NFU board and county meetings to better understand members' business challenges and priorities and discuss the most effective ways to provide the additional support to change unsafe behaviours.

NEW

Joint working to address animal welfare

– We are working with Yorkshire Water to understand how we can improve our joint processes to minimise the impact of power cuts which indirectly may affect water supplies which in turn can create animal welfare issues in times of extreme heat.

SCALED UP

Educating the young – Embedding safety learning in college induction events and curriculum with **320 new students plus their lecturers and associated farm workers** at Bishop Burton and Askham Bryan agricultural colleges.

NEW

Looking for new ways to extend reach

– Following farmer feedback, we contacted **tractor/machinery sales companies**, supplying them with safety literature including cab stickers and air fresheners to be on display in their showroom and added to machinery sold. Safety information has also been added to our wayleaves letters and cheques reaching **47,000 hard to reach rural customers annually** at no additional cost.

NEW

Targeting future farmers – Working with the Farm Safety Partnership 'Yellow Wellies' to reach the new generation of farmers (20 to 40 year olds) with articles and safety blogs.

Used trusted channels. Promoted safety and safety materials through the NFU Magazine (British Farmer and Grower) July edition with **6,506 copies sent to NFU members** with a 75% open rate.

Joint promotion with Energy Networks Association – 'Look Out, Look Up!' Farm safety video.

Hard to reach – increasing reach and depth of rural engagement. Alongside our annual attendance at the Great Yorkshire Show (reach 130,000), by visiting **hard to reach rural stakeholders** at local shows in areas with a high propensity of overhead lines and arable farming, we have reached **25,000 additional rural customers/stakeholders.**

NEW

CASE STUDY

SHOCK! A step change in our region's agricultural safety



The issue

A specific safety incident on a large managed farm led to a chain reaction that has further informed our approach to increasing agricultural safety.

The incident involved a high-voltage overhead power line brought down by a contractor raising a trailer underneath it. The follow-up investigation revealed that although farm managers had printed information about overhead line locations and safety considerations, it was unclear how much of this information was passed on to individual workers and contractors

who may use self-directed safety inductions, which do not cover this issue. This situation presented us with the challenge of reaching a very geographically dispersed and demographically diverse audience with this important safety message and to develop engaging and effective education material that changed behaviour – not just raised awareness.

What we did

Further discussions with the NFU concluded this issue was widespread across the UK and demonstrated the need to create a bespoke resource to explain the dangers presented by overhead lines and **what to do in case of an incident.** We agreed this would be developed as a national resource, as this is a national issue, creating a memorable animated mnemonic that could easily be shared to change behaviours as well as educate.

The new 'SHOCK' protocol outlines what to do if your vehicle makes contact with an overhead line (S is for Safe, H is for Help, O is for Others, C is for Clear, K is for Keep away). This model is based on the Stroke Association's widely recognised FAST (Face, Arms, Speech, Time) programme.

The animation will be officially launched as part of the **Farm Safety Partnership's 2019 campaign that aims to halve farm fatalities by the end of 2023**, and shared widely through our work with new agricultural partners, DNOs across the UK and outlets including the NFU, the Farm Safety Foundation, agricultural colleges and farm vehicle retailers.

The outcomes and benefits

- ▶ Potentially life-saving education being delivered to at risk, hard to reach audiences.
- ▶ Resource which can be used nationally by other DNOs, ENA and wider partners.
- ▶ Consistent, accurate messaging as part of safety induction for colleges and managed farms – filling an important gap.
- ▶ Easily sharable and translatable across a range of different channels such as adapted for large screen use at agricultural events across our region to extend reach to new audiences.

As well as working regionally through our newly formed partnerships, we are jointly campaigning nationally.

Regular input and challenge from our stakeholders is helping to ensure we are fit for the future for our customers. Ensuring their current and future priorities and needs are shaping our decisions and directing our plans.

Distribution System Operator (DSO) transition

Building on our previous DSO engagement programme, we have expanded and accelerated our approach. In the past year, we have raised the intensity of engagement to validate our thinking, add definition to our plans and support the first phase of implementation of our customer flexibility plans.

SCALED UP

In the past year we have raised the frequency and scale of our engagement, using stakeholder mapping to increase the diversity, quality and quantity of opinions including emerging groups, new market entrants, energy disruptors and groups representing the interests of those who may be left behind.

NEW

Stakeholder summit – mature engagement approach – We held our first stakeholder summit in December 2018, with our **Executive and over 80 senior stakeholders**, focusing on DSO transition; four well-attended workshops debated DSO approach, flexibility, social inclusion, electric vehicles and future skills priorities. **76% of stakeholders were supportive of our DSO direction of travel.**

NEW

Launching our DSO strategy document (DSO v1.0) encourages further engagement and captured 18 months of stakeholder input – We set out our next steps and longer-term emerging thinking with a series of questions with an easily accessible commentary. This established a platform for deeper engagement and six-monthly updates in line with feedback and challenge. The

ENHANCED

initial draft was shared at our summit and we updated it with attendees feedback before wider publication.

Unlocking our energy future roundtable consultation events – We held targeted DSO consultation events to discuss key parts of DSO v1.0 in more detail. The deliberative events with 70 plus delegates majored on roundtable facilitated discussions. Led by our Executive, the round tables debated critical aspects of the potential pathways to 2030, as well as ensuring they matched particular elements of DSO that stakeholders had told us they would like us to explore.

Understanding stakeholder priorities

When asked which topics for future engagements our DSO stakeholders would most likely attend, they responded as follows: **Flexibility – 52%, Social Inclusivity – 41%, Data – 41%** and this forms the basis of the future engagement planning cycle.

Broadening reach to support the launch of our DSO and customer flexibility plan, we also undertook a series of press releases and media relations activities with coverage in industry publications, raising awareness and understanding to increase interest, inclusion and to encourage future engagement.

We achieved five pieces of quality trade coverage with an online readership of **94k and a series of media interviews.**

Strategy informed by stakeholder feedback

At our London DSO event held in January 2019, we asked stakeholders if they agreed with our guiding principles, outlined in the DSO v1.0 document:

Four guiding principles for future DSO services

1. Led by our customers' needs.
2. Promoted sustainability by being efficient, fair and inclusive and better for the environment.
3. Requires a right-sized regulated business supporting competitive markets for flexibility.
4. Changes to duties that optimise the system as the volume of distributed energy resources increases.

84% of delegates agreed with our draft guiding principles, but some consensus emerged on the need to add some proposition around impartiality and transparency. A fifth guiding principles will therefore be added when the DSO document v1.0 is updated in summer 2019.

Getting on with it

As we set out last year, we continue to deliver on the aspects of the DSO strategy we can be getting on with, including innovation, smart grid developments and flexibility. Some examples of this in 2018/19 are set out below.

Launch of flexibility opportunities

NEW

Building on stakeholder feedback and learning from other DNOs' approaches, we've launched our customer-led flexibility strategy to work with large energy users (or aggregations of smaller users) in our region to provide extra value from their energy assets and manage the network in the most cost-efficient manner. Through our targeted engagement, including press, conferences, round tables, dedicated workshops and one-to-one meetings, we have encouraged customers in nine targeted postcode areas to express their interest through signing up their assets on the Piclo's Flex platform. This communicates where and when network congestion is likely to happen, allowing providers of energy supply or demand side response to bid for short-term contracts. This has been positively received with more stakeholder interest and sign-ups on the platform than any other DNO to date.

'Silent Power' providing sustainable resilience for our customers

NEW

Resilience is a key customer priority; we currently deploy more than 2,500 diesel generators to provide temporary power restoration during power cuts and planned outages each year.

Diesel generators cannot be deployed in some areas due to access issues and they cause air and sound pollution. We have partnered with British energy storage SMEs, Hyperdrive Innovation and Offgrid Energy, to run the Silent Power trial, which will see electric vans with on-board energy storage systems quietly and cleanly restore power to those who become most vulnerable during a power cut or essential maintenance work. Up to three homes or a small community centre could be powered with just one van for 24 hours. During the two-year trial we will assess the usability, customer benefits and economic viability of the battery inverter generator units.

Potential outcomes and benefits

- ▶ Enabling more renewable generation, and offering UK consumers estimated savings of £17-£40 billion by 2050 (UK wide savings).
- ▶ Multiple opportunities to explore the most efficient approaches due to high engagement and interest levels in participation in customer-led flexibility strategy.
- ▶ Reducing the impact of power cuts for vulnerable people across our region.
- ▶ Silent power generators have increased reliability compared to traditional diesel alternatives.
- ▶ Improving the air we all breathe and reducing noise pollution.
- ▶ Many industries need temporary power supplies, this could be shared across other sectors.

Smart Grid programme – Anticipating faults before they happen

The transition to DSO includes making use of intelligence from data to develop increasingly active networks that deliver high levels of reliability and availability for customers. Identifying and preventing potential power cuts before they occur will help us deliver on this ambition, which we know from our round tables is a shared priority for customers and stakeholders. Through our world-first **Foresight** pre-fault detection technology, we are responding to this by being able to capture faults on our low voltage (LV) network before they become faults. Foresight is deployed across **136** substations, it enables us to pinpoint potential issues accurately. Rollout is scheduled for the entire network by early 2020.

Building a cleaner transport future

Working proactively on behalf of our customers, we are partnering with Nissan in the world's first large-scale trial to show how electric cars can become a key part of our power network. The £9.8 million project* will see 1,000 smart Vehicle-to-Grid (V2G) chargers installed, so electric vehicles (EV) can be plugged into the grid and their batteries used to help manage supply and demand.

We are investigating whether gamification can stimulate electric car drivers to engage with V2G technologies. The trial utilises virtual currencies, competitions and raffles to encourage drivers be part of Britain's smart energy grid future.

The challenge will be how to get all those EV drivers to sign up and be a part of the solution, allowing energy companies and the National Grid to harness EV batteries, and even adapt EV drivers' travel plans.

Outcomes and benefits

- ▶ Prevented **196 potential power cuts, saving up to three weeks of engineers' time** to date.
- ▶ Reducing the number of customers experiencing power cuts and reducing disruption to them from road works.
- ▶ Efficiency realised through saving time, materials and the disruption caused by digging up roads to replace short faulty sections of cable.

Outcomes and benefits

- ▶ With 150,000 electric cars on the road in the UK, by harnessing their batteries to store and release energy when it's most needed by the grid, enabling a smart, green and more stable energy grid.
- ▶ Development of innovative engagement methods to encourage customers to engage with and adopt decarbonisation behaviours.
- ▶ Potential to save customers money by minimising the energy flow through their meter.
- ▶ Greater customer resilience by helping to keep the lights on after faults in the energy network.

*The project received almost £300,000 from Innovate UK, with additional funding coming from the partners Northern Powergrid, Ecotricity, Gengame, EnAppSys and Newcastle University.

Emerging priorities

We regularly check in with our stakeholders to ensure that our shared priorities remain in line with changing needs. Through our research, engagement and trend analysis of annual priorities research, emerging priorities this year include improved relationships with

large business customers, future skills and workforce renewal, big data, decarbonisation, innovation and the future energy transition. We continue to engage in how we can meet these needs and already have work underway in many areas.

NEW

CASE STUDY

Engaging customers to take an active role in the energy transition

The issue

We are investigating alternatives to costly upgrades by paying customers to reduce consumption at times of high demand. Many businesses receive payments for providing this demand side response (DSR) but there have been few successful trials of residential customer DSR.

Our approach

We collaborated with Newcastle University and gamification experts GenGame to develop the GenGame mobile game.

Over 2,000 rural and isolated customers who are typically disengaged, actively took part in the trial of the game. The more they reduced their energy consumption, the more points they earned, increasing their chance to win cash prizes online.

Outcomes and benefits

- ▶ Effective engagement strategy to encourage domestic customers to participate in the future energy transition.
- ▶ Customers cut their electricity consumption by an average of 11%.

- ▶ Findings shared nationally including the trials, errors and triumphs, benefitting energy customers across the country in the transition to DSO.
- ▶ An online assessment tool has been produced to aid industry adoption of DSR gamification.
- ▶ Follow up project 'Gen-Drive' – incentivising EV drivers to use their vehicles to support the UK energy grid.

NEW

CASE STUDY

Battery storage provision for our most vulnerable customers



The needs/insights

- ▶ We have a significant number of medically dependent customers on our PSR.

- ▶ The need for palliative care is likely to increase over the next decades with many receiving care at home, with an increased reliance on electricity.

What we did

As part of our energy transition, we are considering how we use low carbon technologies such as batteries to better support the needs of customers in maintaining a consistent power supply. Working with the NEA, we are installing 30 batteries in customer homes, at our cost, to understand the capability of batteries to maintain power. The feasibility study has

assessed the practicality of delivering the project technically, its potential social impacts and other risks.

The potential outcomes and benefits

- ▶ Addressing longer-term social issues like affordability as well as uninterrupted supply for electrically medically dependent customers.
- ▶ As an incidental benefit, it may be possible to transfer some of the customer electricity use to lower tariff periods (e.g. economy 7), so reducing customers' electricity bills.

NEW

CASE STUDY

“Just Transition” future workforce



The issue

Decarbonisation presents opportunities and risks to the North of England: 28,000 jobs are at risk by 2030 as the energy system moves away from fossil fuels, while a potential 46,000 new jobs could be created in low carbon power by the same date. This situation creates uncertainty for workers, communities and businesses as they look ahead at future skills needs.

What we did

We have partnered with Prospect, EDF and Sellafield to examine the implications of decarbonisation on available skills.

As part of this work, we sponsored research by IPPR on the changing energy landscape and presented the interim report to stakeholders at our annual summit – with a dedicated workshop looking at how we can secure the skills of the future.

We then presented the report findings, alongside IPPR, to MPs, Lords, academics, education experts, business and industry colleagues in parliament, where we set out our commitment to developing the skills base, generating new employment opportunities and ensuring prosperity for people in our communities. Some of the vital work we are undertaking to achieve this includes:

- ▶ Our regional recruitment policy, with a specific focus on rural/socially deprived communities so our homegrown talent is as diverse as the communities we represent.

- ▶ Work with education charities, schools and colleges to promote Northern Powergrid and the roles we offer, and to address the gender imbalance we have in the business.
- ▶ Partnering with WISE to address the challenges faced by women and girls looking to careers in STEM.

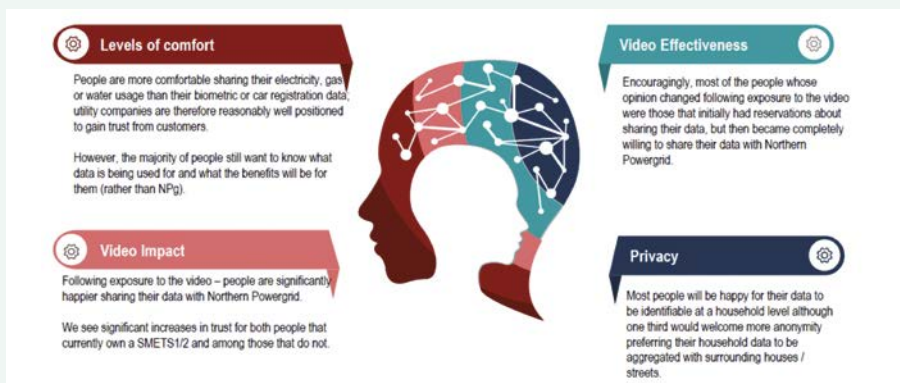
Outcomes and benefits

- ▶ A better understanding of the current skilled workforce available in our area and where to target recruitment/re-skilling.
- ▶ Helping policymakers understand the challenges and what is needed to prepare the North of England to take advantage of future energy changes.
- ▶ Well informed workforce renewal strategies that incorporate the regional needs and challenges throughout RIIO ED2.
- ▶ Supporting the recruitment of a skilled workforce that reflects the communities that we serve.

NEW

CASE STUDY

Understanding our customers' views on data-informed policies and approaches



The issue

- ▶ As an emerging priority for us and our customers, we needed to understand our customers' views to ensure our approach to privacy data and security meets their needs. Access to data and DNO use of data is a complex issue to explain in a short space of time to domestic customers.
- ▶ Previous research into consumer attitudes to sharing smart metering consumption data consisted of a small number of time-expensive qualitative interviews.

What we did

Conducted the most significant piece of smart metering consumer research to date using and testing best practice approaches to research and engagement, as follows:

Four focus groups with 40 people – smart meter owners and non-smart meter owners – During these sessions, we educated groups about Northern Powergrid, smart meters and their views on data sharing. These groups were reconvened a week later to evaluate

an educational video and discuss their thoughts on the acceptability of sharing smart meter data.

Development of smart metering educational video – Producing simplified messaging to convey a complex message to ensure we were getting an informed and educated response to quantitative information. Reducing time to convey key messaging and understanding from 2hr or ½ day workshop to a 3-minute animation.

Cognitive testing – nine in-depth interviews – Testing out the logic of all questions to ensure all ambiguity was addressed, reviewing the questionnaire and the reasoning behind answering particular questions. This process ensured that all questions were interpreted correctly.

Online survey with 1,008 customers split equally between smart meter owners and non-owners, it was geographically and socio-economically representative – Watching the educational video and questions to evaluate the impact and attitudes to sharing smart meter data.

Survey findings in summary

- ▶ People are more comfortable sharing their utilities data than biometric or car registration data but they still want to know what it will be used for and the benefits for them.
- ▶ Following education (video), people are significantly happier sharing their data – most people whose opinion changed were those who initially had reservations but then became completely willing to share their data.
- ▶ Most would be happy to share their data at a household level with a third preferring sharing at an aggregated house or street level.

Additional learning and added value

- ▶ Shared findings with other DNOs, BEIS, Ofgem, NGOs and other interested organisations electronically through deliberative events to discuss the results, what they mean and action planning/learning.

Outcomes and benefits

- ▶ Post Cambridge Analytica and GDPR, research giving a more accurate/current reflection of attitudes with a more informed/wary audience.
- ▶ Getting the full investment value for customers through sharing approach and findings with UKPLC – others can see the information and interpret the feedback/learning/insight in different ways.
- ▶ Greater understanding of our consumer attitudes and how to address concerns in future communications and engagement.
- ▶ Data privacy policy and strategy are informed by the voice of our customers.

Notes

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