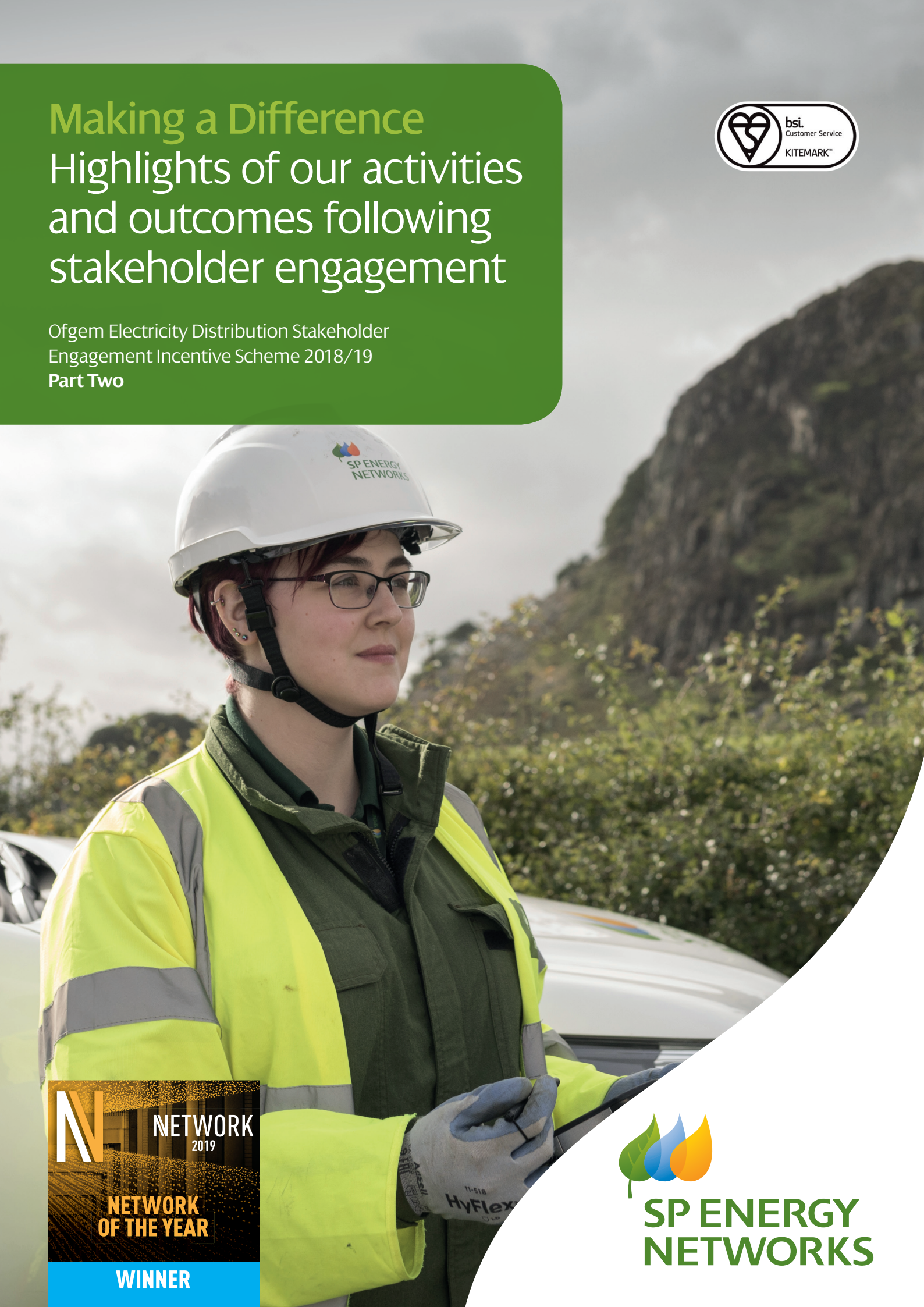
Making a Difference

Highlights of our activities and outcomes following stakeholder engagement

Ofgem Electricity Distribution Stakeholder Engagement Incentive Scheme 2018/19
Part Two



NETWORK 2019
NETWORK OF THE YEAR
WINNER

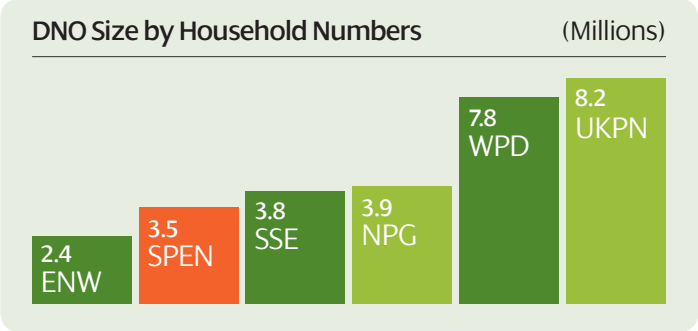
SP ENERGY NETWORKS

Contents

This is Part Two of our submission to Ofgem's Stakeholder Engagement Incentive for regulatory year 2018/2019.

SP Energy Networks is the Distribution Network that delivers electricity to homes and businesses in Central and Southern Scotland, Merseyside, Cheshire, North Wales and North Shropshire. We are the only network operator to operate across three countries – Scotland, England and Wales.

Ofgem's annual SECV Incentive encourages Distribution Network Operators (DNOs) to 'engage proactively with stakeholders in order to anticipate their needs and deliver a consumer focused, socially responsible and sustainable energy service'.



Company size and scale

SPEN has 3.5 million households and is 5th in terms of the size of our customer base (but not the size of our ambition) when comparing all 6 DNOs.

Introduction

Stakeholder engagement has never been as valuable as we transform our business to help the UK meet it's climate change goals.

It is my personal goal, that the culture of stakeholder engagement across SPEN is focused on delivering the business change that is necessary to future proof the network.

Our enhanced strategy and tools have allowed us to engage with more stakeholders in more tailored and effective ways this year. To complement better engagement we have ensured that feedback is heard, escalated to the appropriate division, tracked, acted and followed up on.

We have been working closely with the national governments and local authorities to help deliver their plans for the future and to meet the challenges of the low carbon revolution with particular focus on low carbon technologies and energy storage, meeting with key policy makers and raising awareness of the issues we face.

We have engaged on our plans of becoming a Distribution System Operator, our strategy to provide the network of the future, supporting smart cities and rural communities and providing the guidance necessary for future generation customers.

I am extremely proud of my team and their ongoing commitment to stakeholder engagement and for ensuring we implement the feedback that makes the difference to our plans and activities.

Our Part 2 submission highlights some of the key outcomes we have delivered in the past 12 months through targeted engagement, going above and beyond business as usual.

Frank Mitchell, CEO

The UK's leading Network Operator

In top 16% of companies audited as part of AccountAbility stakeholder engagement healthcheck globally.

Benchmarked 1st for customer service in the UK by the Institute of Customer Service, ahead of Amazon and John Lewis.

£15m investment made to date to accelerate innovative low-carbon community projects to benefit society and local economic growth.

World's first utility company to achieve the BSI Kitemark for Customer Service.

Our enhanced Stakeholder Engagement Strategy is an evolution of our current activities, not a revolution. We are building on the existing principles and platforms that already exist. We have a number of important subjects we must focus on this year so it's imperative we have the structure in place to engage with the key stakeholders regarding these strategic topics consistently at every level of our business.

Guy Jefferson *Customer Service Director*

How do we know we are focused on the right topics?

Key engagement themes

In 2018, we carried out customer research, engaging with a diverse range of consumers via discussion groups to ensure we were focusing on the right topics.

We wanted to understand what our customers wanted from a network operator and the key values they expect us to hold. (See Part 1, Page 2).

Based on the feedback we received, we have structured our engagement approach based on the following three strategic themes – Better, Future, Quicker.

Embedded in the business

We operate with one business wide engagement plan, divided into 11 clear topics under our three key themes. Each topic is owned by a senior manager, responsible for engagement across the whole of the business including executive team, senior management, centralised departments and local teams. Across the business we now have 62 trained users on our Tractivity stakeholder engagement management system, ensuring clear tracking of engagement, feedback and actions right across the business. The feedback and actions seen throughout this document demonstrate the success of our approach.

BETTER *A SUSTAINABLE NETWORK*

Our role remains critical as we see an increase in renewable generation connections and the decarbonisation of heat and transport, all of which our stakeholders have told us is of the utmost importance.

FUTURE *SMART COMMUNITIES*

Our cities and rural communities face enormous challenges – from growing congestion and concerns over air quality, to the need for ultra-fast communications and the provision of vital services including energy, water and waste. With the electric revolution underway, it is imperative we support our communities to be equipped for this huge change.

QUICKER *AN INNOVATIVE NETWORK*

With our energy system changing dramatically, our goal is to be a facilitator for the change our stakeholders want to see. We collaborate, innovate and seek new ways to accelerate changes to our network and service that deliver this future vision.

Our Enhanced Stakeholder Engagement Strategy

Our new and improved stakeholder engagement strategy has been built to ensure each engagement is planned, reviewed and closed using the same process, ensuring consistency in all of our engagements.

As part of this evolution, we integrated feedback from our external stakeholders at our Strategic Stakeholder Panels. We have also looked for expert guidance to signpost our improvement efforts, directly integrating feedback from Ofgem, AccountAbility's AA1000SES audit, and an independent gap analysis by Sia Partners, a recognised expert in the area.

Below is a short summary of key steps of our strategy, as well as the supporting tools and processes, with full details explained in **Part 1** of our submission.

Stakeholder Input: AccountAbility AA1000SES Audit 2017/2018
Establish more formalised stakeholder engagement processes and guidelines, to allow for greater clarity in terms of utilising the different engagement tools and realising the business value of diligently monitoring post-engagement outcomes and actions.

Key Steps of Our Strategy

1. **DEFINE THE PURPOSE** With a clearly defined objective, we can tailor our engagement to deliver the best results. This maximises the value of our efforts, and minimises costs by applying the most effective solution – focusing on value for money.
2. **IDENTIFY IDEAL STAKEHOLDER** Depending on the purpose of the engagement, different individuals will be best placed to offer the insight required. We need to understand a) who are the relevant stakeholders and b) what is their level of knowledge on the specific topic.
3. **TAILOR THE ENGAGEMENT** To ensure the maximum value is gained from the event, we tailor three distinct aspects of its engagement: Content, method of engagement and communications.
4. **ENGAGE** The result of our planning phase is an inclusive, tailored and value for money engagement event, ready to be delivered.
5. **CAPTURE FEEDBACK** Feedback remains crucial in designing and delivering services that are right for those affected by any area of our business. This year, we have built on the foundation of our approach to data and the suggested content of feedback to collect, and the means with which our users can record it.
6. **DETERMINE WANTS AND NEEDS** Analysing feedback to determine needs and services that could be improved, or potential for improving resources, focusing the actions on areas of business change that customers and stakeholders care most about, demonstrating authentic engagement.
7. **DEVELOP PRIORITIES AND ACTIONS** We aim to provide value for money – a principle that lies at the heart of everything the business delivers. Demonstrating value rests on our ability to measure potential outputs and prioritise accordingly.
8. **ACT** Each step, from capturing feedback, determining wants and needs, and developing actions that will make the services we offer better.
9. **CLOSE FEEDBACK LOOP** With our engagement complete, our feedback collected, and our actions taken, the final step of approach is to close the feedback loop. This step consists measuring the success of actions taken, identifying how we can improve our engagement approach and providing progress reports to our stakeholders.

Stakeholder Input: Internal SPEN Teams
"Recording feedback can be too time consuming."
"Sometimes it is hard to fit a particular type of engagement within the set headings and categories."
"I'd like more visibility of engagement from other parts of the business."

Embedding the new strategy through our Tools and Processes

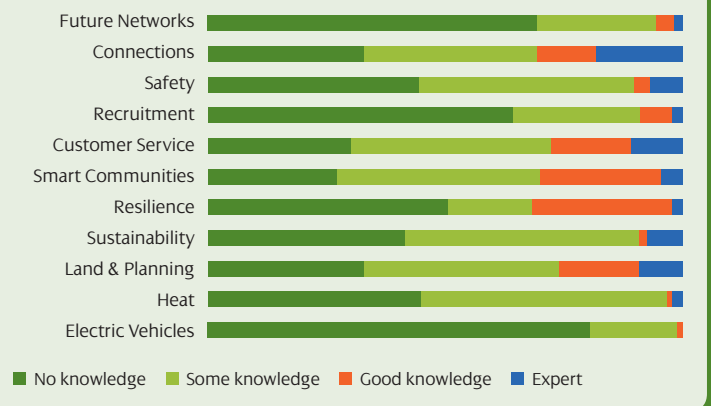
Tractivity®

Feedback from stakeholders led to us making fundamental improvements, particularly to our tools and processes. We have built on the strength of our stakeholder engagement management system, Tractivity.

- Number of system users increased to 62
- Engagement activities are split into 11 strategic topics, across our 3 key themes. Each owned by a senior manager, responsible for engagement efforts across the business. This approach provides a central view of all engagement.
- Developed a quick-entry tab allowing users to enter multiple pieces of feedback, actions in one screen in minutes. Outcomes are recorded against a piece of feedback and the event it was recorded at.
- Stakeholders are now segmented by knowledge level, allowing us to identify gaps in knowledge across each strategic topic.

For example, we have been able to identify a gap in stakeholders with expert knowledge of electric vehicles, which is now a target for improvement.

SPEN Stakeholders' Level of Knowledge



"The business has this year developed tools to assist the review of partnerships and services with, and to the benefit of, external stakeholders. These selection, decision and review templates are positive examples of SPEN's action plan for delivery."

AccountAbility – Stakeholder Engagement Healthcheck 2018/19

Measuring benefits – a ground breaking approach

We never lose sight of the fact that everything we do as a business and the services and benefits we provide are funded by our customers. As explained in Part 1, page 10, we have developed a ground-breaking new measurement tool. This tool models the financial costs and benefits used in a traditional Cost Benefit Analysis but also includes the estimated financial value of qualitative 'social' benefits we've delivered.

How will we use this tool?

We will use the tool in two ways.

1. **Before starting a project** to compare the value of the service with alternatives that are under consideration, allowing us to proceed with the most efficient service.
2. **Afterwards** to understand the actual value generated from the initiative, informing our decision on how our work should evolve; whether to scale up, change, or discontinue services so as to continually deliver the most value for money possible.

Ultimately, using this tool will allow us to consistently identify which services are most efficient at creating value for our customers and will support our decisions on how we act on stakeholder feedback. Furthermore, this allows us to provide a clear justification of our actions to both our regulator and customers.

Example case studies

To demonstrate the effectiveness of our new measurement tool, we have applied it to six of the case studies within our submission document. These results reveal the societal impact of our investments over a 10 year period.

- **EDINBURGH EVs** £1 cost £10.38 benefit
- **CHESHIRE ENERGY HUB** £1 cost £17.03 benefit
- **VIRIDOR** £1 cost £10.77 benefit
- **FIRST BUS** £1 cost £1.17 benefit
- **CALA HOMES** £1 cost £14.33 benefit
- **SMART STREET** £1 cost £8.08 benefit

An example: Edinburgh electric vehicle charging project

In this case study, we have used the measurement tool to calculate the Social Return on Investment for the Edinburgh electric vehicles charging project (page 5).

Inputs to the tool

We started by gathering together the required inputs for the tool:

- The number of stakeholders impacted
- Duration of the project
- Cost of labour and materials
- Financial benefits

Societal benefits

Next, we insert qualitative descriptions of the societal benefits we expect to see from this project.

Financial proxies

For the next step, we find financial proxy values associated with each of the benefits. We use publically available information, or our own market research – including the joint DNO willingness to pay values from Accent.

Estimating benefits

Finally, we insert the financial proxies to the tool and then improve the robustness of the calculation by assessing:

- How much of each benefit can be attributed to SPEN.
- How much the benefit 'drops off' year on year.
- The % likelihood of the benefit being successfully achieved.
- The number of people impacted by each societal benefit.

Social Return on Investment figure

All of this work then returns in a simple calculation of the social return on investment of the project – expressed over 1 year, 5 years, 10 years of 15 years. For the purposes of an easy to understand, comparable figure – we are using a 10 year calculation in this submission.

OUTPUT OF THE TOOL

Social return on investment (£ value per £1 spent)

1 year	5 years	10 years	15 years
£1.21	£5.64	£10.38	£10.38

Focusing on initiatives that deliver the best value for customers

We can also use the tool to compare different investment options – providing an unprecedented level of maturity in deciding where to direct our resources.

For example, we used the tool to measure the societal benefits associated with the introduction of street lamp charge points for electric vehicles in Edinburgh. The tool calculated that the SROI of this project would be **only 51p per customer** over a 10 year period.

We took a joint decision with Edinburgh City Council not to take this forward at this time, but to keep under review.

BETTER – *A Sustainable Network*

"We play a crucial role in meeting the UK's ambitious climate change targets and in enabling the transition to a low carbon economy. It's key we reduce our own environmental impacts and deliver sustainable value for current and future customers. Our vision of sustainability is becoming central to all that we do, as we strive to become the utility of the future."

Colin Taylor, Process & Technologies Director

Highlights of our Sustainability Engagement

3,984 Stakeholders Engaged

63 Engagement Events

NOTABLE ACHIEVEMENTS

Electric Vehicles – Launched new UK-first electric transport charging infrastructure project across Merseyside, Cheshire, North Shropshire and North Wales.

City Planning – Co-created Edinburgh City electric vehicle plan, now approved for 66 on-street charging points across 14 hubs including city centre, residential areas and park and ride sites by 2020. Applications to be received by Council in April 2019.

Public Transport – New partnership with First Glasgow, Scotland's biggest bus operator, bringing the first large passenger electric bus to Glasgow, accelerating the city's ambitious low emission zones and providing a case study for Transport Scotland to use learnings to scale up and across country.

Young Energy Force Panel – Expanded our future bill payers panel to understand the priorities of hard to reach stakeholders. Captured key feedback in terms of actions we should be taking to address societal sustainability issues e.g. future workforce opportunities and environmental benefits for the wider society.

Green Economy – Invested £15m to date, for 34 innovative projects to reduce carbon emissions and accelerate clean, green economic growth in our local areas e.g. Micro-Hydro scheme powering ground source heat pumps and two new electric car clubs in North Ayrshire and the Scottish Borders.

Developing our Sustainability Strategy and Building Partnerships for Global Impact

The feedback which inspired this initiative

Stakeholder collaboration and consultation through our Sustainability Stakeholder Working Group and Stakeholder Panels throughout 2018 has provided clear feedback that we must have the vision and ambition to become a leader in sustainability.

Through engagement at our Strategic Stakeholder Panels, we were the first DNO to produce a comprehensive sustainable business strategy.

We adopted ambitious goals for sustainability, aligned to the United Nations Sustainable Development Goals. We set a target to be carbon neutral by 2050, to divert 95% of waste from landfill by 2023 and a 10% reduction in water use by 2023. Feedback from our stakeholders has driven the actions we are now taking and the objectives we are setting ourselves to achieve these goals.

This year we have enhanced our Sustainability Stakeholder Working Group by developing new partnerships with key sustainability stakeholders in national and devolved governments and enterprise groups e.g. Sustainable Scotland Network. We have evolved our collaborative priorities with our existing partners including environmental protection agencies and national heritage organisations.

Engagement and Project Lead
Jane McMillan, Sustainability Manager

Actions we achieved this year

- ☑ **NEW: First DNO to adopt internationally recognised certification, Planet Mark** – for second year in a row, recognising commitment to continuous improvement in sustainability and reduction in emissions. Working to reduce our biggest impacts and communicate our progress as we head towards our target to be carbon neutral by 2050.
- ☑ **NEW: Held two executive level engagement workshops** – with Planet Mark to help us define actions to reduce CO_2 and office impacts.
- ☑ **NEW: Roles and responsibilities clarified across organisation** – making obligation to sustainability clear.
- ☑ **NEW: Achieved Gold Award (83.9%) from 'Keep Scotland Beautiful' at pilot depot** – for exceptionally high standards of our processes, strategy, staff engagement and energy efficiency levels and demonstrating best practice.
- ☑ **NEW: Pilot to lower carbon leakage** – Continued focus to identify alternatives to the most harmful of carbon emissions and drive lower SF6 leakage rates.
- ☑ **NEW: Pilot project at two depots** – to test new approaches to waste reduction and management.

The benefit this delivers to customers and stakeholders

- Achieved a 29% reduction in Business Carbon Footprint against a 2013/14 baseline.
- Emissions reduced – staff domestic air travel by 26% and reduced business miles by 10%.
- SPEN staff have been taking part in environmental e-learning courses, with 12,738 courses completed this year since October.
- After introducing a new innovative fleet management system, we've reduced carbon emissions from fleet vehicles by 7.6%.

Supporting the Decarbonisation of Private Vehicles

The feedback which inspired this initiative

'Early engagement and more effective integrated planning are key'. Quote from Strategic Stakeholder Panel

With ambitious government targets to ban the sale of new petrol and diesel cars by as early as 2032, we have taken a proactive approach to engagement.

We have developed new partnerships with national governments, local authorities, businesses and transport bodies to support and facilitate their plans.

Engagement and Project Lead
Gerry Boyd, Commerical & Innovation Manager

Actions we achieved this year

- ☑ **NEW: Developed new UK first network monitoring system** – using data science 'pattern analysis'. This new data intelligence can identify hotspots on network via smart meter data to monitor electric vehicle uptake.
- ☑ **NEW: Co-created plan with Edinburgh City Council** – for roll-out of electric charge points and network upgrades, using learnings in Glasgow and Liverpool.
- ☑ **NEW: Industry-leading academic collaboration launched** – supporting leading universities to analyse data, informing future plans, including charging mechanisms and payment structures.
- ☑ **NEW: Strategic partnership with Transport Scotland** – to ensure Scottish Government electric vehicle plans are considering the future requirements of our electricity networks. As a direct result we assisted in scoping an electric vehicle uptake modelling project.
- ☑ **NEW: Strategic partnerships established** – e.g. Community Energy Wales, Ynni Lleol and Ynni Llyn, to help serve the needs of hard to reach rural communities, social housing and existing commercial generators benefit from electric charging opportunities.
- ☑ **NEW: Memorandum of understanding signed with Nissan** – benefiting future electric car owners through projects studying connection of vehicles to the network.
- ☑ **NEW: Electrification of fleet** – working on plan to update 100 small and medium vans to electric and hybrid vehicles.
- ☑ **NEW: Funding local electric vehicle projects** – inc. an app assisting drivers with real-time availability of charging points, two new electric car clubs and six "e-Cargo" bikes.

The benefit this delivers to customers and stakeholders

- 66 on-street charging points across Edinburgh by 2020. Predicted environmental benefits include carbon savings of 7.715 tonnes, equivalent to taking 1,513 cars off the road for a year.
- "e-Cargo" bikes – creating 20 jobs from a high-unemployment area. Will result in future CO_2e saving of 8.37% of the total Road Transport contribution to Scotland's 2021 Climate.

Expected societal benefits over 10 years for **Edinburgh EV project**
£1 cost / £10.38 benefit

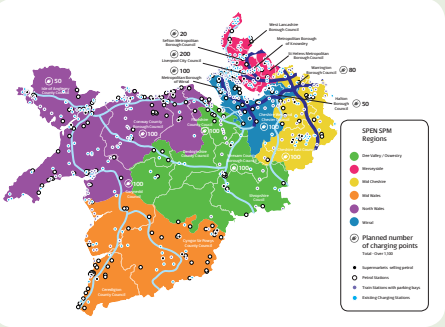
Supporting the Decarbonisation of Public Transport

The feedback which inspired this initiative

'Public transport is key to helping cities meet their carbon emissions target. Not all communities have access to a car.' Quote from Stakeholder Conference

We want to ensure the development of a new green economy doesn't just benefit those fortunate enough to afford their own electric vehicle. We've been proactive in tackling the issue, establishing innovative partnerships with challenging stakeholders, such as transport providers and local community organisations.

Engagement and Project Lead
Geoff Murphy, Electric Vehicle Project Manager



Actions we achieved this year

- ☑ **NEW: Developed electric charging infrastructure mapping** – for over 1,100 planned charging points at petrol stations and train stations with parking, in collaboration with local authorities.
- ☑ **NEW: Partnerships for new charging points** – including extending nine existing (e.g. Cheshire Energy Hub and Welsh Government) and establishing eight new (e.g. National Trust Wales and Community Energy Wales) partnerships.
- ☑ **NEW: Partnership with First Bus and Alexander Dennis (bus manufacturer)** – including funding for the introduction of Glasgow's first large passenger electric buses and continuation of an existing electric route.
- ☑ **NEW: UK first transport innovation project** – merging transport planning with electricity network planning, via NIC initiative.
- ☑ **NEW: Assisted a Community Transport organisation as they become fully low carbon** – who support more than 75K hard to reach elderly and vulnerable passengers.
- ☑ **NEW: Funded an eBike network** – including 10 charging stations and 100 eBikes.

The benefit this delivers to customers and stakeholders

- New electric transport project, if rolled out across GB, has potential to deliver capacity for the connection of EV chargers, total financial benefit of £135m by 2030 and £795m by 2050 reducing CO_2 emissions by 0.9m tonnes by 2030 and 5.66m by 2050.
- Supporting community transport transition to 13 electric buses, providing an estimated reduction of 43.22 tonnes per annum of CO_2 emissions, equating to 216.1 tonnes saved over a 5 year period.
- Enabling continued operation of Glasgow's only electric bus, serving over 200K passengers a year, providing reliable service to a variety of stakeholders.

Expected societal benefits over 10 years for **First Bus project**
£1 cost / £1.17 benefit

FUTURE – *Smart Communities*

"Our local communities want to move faster and quicker than national targets. They want to see the benefits of low carbon infrastructure in their cities and regions. The drive to lower emissions is a key health objective.

We want to support our communities benefit sooner and to ensure no-one is left behind. With the help of a think tank, Localis – experts in how people and communities take control of their lives – we looked at how smart cities can deliver the cleaner, greener and more economically productive communities we all want for the future."

Guy Jefferson, Customer Service Director

Highlights of our Smart Communities Engagement

97,517 Stakeholders Engaged

291 Engagement Events

NOTABLE ACHIEVEMENTS

Smart Cities – Two roundtable events hosted by our CEO with influential stakeholders in larger cities.

Community Energy – Collaboration with other network operators to run joint GB community energy events and associated impact report.

Partnerships Smart Cities Award – Recognised for our collaboration with Glasgow City Council by Network Awards 2019, for technological innovation and leading the way for Glasgow to become one of the most sustainable cities in Europe.

Helping Scotland, England and Wales Deliver on their Vision for Smarter Communities

The feedback which inspired this initiative

Average of 93% of Stakeholder Conference attendees believed local government should work with private energy providers to deliver physical infrastructure.

Within our licence areas, we cover 4 key local government areas, each with different, challenging targets, for example:

- Liverpool City Region must lower carbon emissions, whilst supporting extensive regeneration and growth.
- Welsh Government aspire to generate 70% of electricity consumption from renewable sources by 2030 and 100% by 2035.
- Scottish Government aim to have largely decarbonised the energy system by 2050.
- Cheshire and Warrington's Local Enterprise Partnership has outlined plans to host the world's first zero carbon industry cluster.

Our engagement activities have been diverse and tailored. For example, we held two roundtable events with city leaders, in conjunction with a political engagement plan, facilitating cross-government and cross-party support.

This approach engaged 78 regional challenging and hard to reach stakeholders at the forefront of transitioning to low carbon communities, including local authorities, transport companies, Citizen's Advice Scotland, Energy Savings Trust academics and relevant CEOs, to create six agreed lobbying points, enabling SPEN to represent all stakeholders' needs.

Engagement and Project Lead
Jim McOmish, Head of Distribution Network

The benefit this delivers to customers and stakeholders

- New energy plan for Wales launched - essential actions to generate 100% of consumption from renewables by 2035; increasing energy security, reducing fuel poverty and tackling climate change.
- Feasibility study for new city centre heat network in Liverpool, understandingkey constraints and identifying solutions.
- Facilitating future electrical power to support proposed new cruise liner terminal in Liverpool attracting more visitors, boosting businesses and creating jobs for local people.
- Adopting best practice from Spain, signing Memorandums of Understanding with cities for future energy planning and infrastructure – ensuring needs of stakeholders considered in smart cities of the future.

Actions we achieved this year

- ☑ **NEW: Engagement informed report produced by think tank Localis** – 'Smart Cities, Fair Investment for Sustainable Growth', highlighting the role of energy networks in delivering smart cities.
- ☑ **NEW: Seconded SPEN team member into office of Merseyside Metropolitan Mayor –** as a dedicated resource informing future planning. We plan to do the same for Scottish Government.
- ☑ **NEW: Helped shape Scottish Government vision for Electricity and Gas Networks** – recognising the critical role network operators play in delivering secure, clean and affordable energy.
- ☑ **NEW: Provided expertise and data** – to support Welsh Government Consultation on locally owned energy, Re-energising Wales Steering Group and Anglesey & Deeside enterprise zones.
- ☑ **NEW: Coordinated and integrated investment plans with Liverpool City Region** – including harnessing the River Mersey as a source of clean, renewable energy.
- ☑ **NEW: Joined board of Scotland's Town Partnership** – to help shape approach and activity based around opportunities within changing energy market.
- ☑ **NEW: Best Practice shared with our sister Spanish network operator** – Based on our example, new project launched in Spain to advise city councils on intelligent use of energy resources. Project involves 36 province capitals and those with more than 100k citizens. They have now signed Memorandums of Understanding for future planning.

"Scotland's Town Partnership sits as a participant on SPEN's Strategic Stakeholder Panel. The benefits of this are multiple; we get to hear from senior SPEN management about the issues and opportunities facing Scotland and the wider UK and global energy markets. This allows us to design projects and activities that benefit local towns, bringing a range of social, economic and environmental benefits."

Phil Prentice, Chief Officer, Scotland's Town Partnership

Creating a Smart Community through whole system planning

The feedback which inspired this initiative

'Partnerships and trust are critical, SP Energy Networks needs to be seen as a trusted and independent partner.' Quote from Strategic Stakeholder Panel

Cheshire energy hub

Engagement and Project Lead
Rachel Shorney, Stakeholder & Community Engagement Manager

Due to the constraints of the grid, much of our local engagement is based on understanding the requirements of a local community and working to become an enabler rather than a blocker. Legislation prevents us from building capacity into the network in areas of predicted future demand until there is greater certainty around projects.

An innovative solution is the Cheshire Energy Hub, an energy sector support organisation, which has been entirely funded and strategically driven by industry. We are a key partner, working with member organisations and key stakeholders to promote collaborative action, advancing the skills agenda and working towards business solutions to drive economic development in the local area.

Actions we achieved this year

- ☑ **NEW: Co-created a new Energy Innovation District** – to provide secure, low carbon and lower cost energy for a whole energy system. The chosen area is located between cities, heavy industry and natural assets and accounts for 5% of total UK energy usage.
- ☑ **NEW: Co-created a new Smart Energy Masterplan** – Provided electrical data input and cost options to load growth scenarios. The master plan sets out a 10 year private sector investment programme for developing a smart grid, that could be rolled out across the UK.

The benefit this delivers to customers and stakeholders

- Through innovation and investment, the project will benefit Cheshire alone with 33,700 new jobs, addressing unemployment and boosting local economic growth thereby decreasing unemployment and increasing skill set in the area.
- Reduce energy costs by 20% by 2030.
- Create an integrated energy system to deliver affordable energy costs for domestic households.
- The E-Port Smart Grid Project will drive down cost of clean energy in the area, reducing greenhouse gas emissions and cutting energy bills by 20%, create new jobs and attract new businesses.

Expected societal benefits over 10 years for Cheshire Energy project
£1 cost / £17.03 benefit

UK first partnership with CALA Homes

The feedback which inspired this initiative

We were approached by a leading housebuilder at an industry conference. They asked if we could support their understanding of how requirements for a smart home of the future impacts the size of connection to the electricity network.

CALA HOMES

We have formed a ground-breaking partnership with CALA Homes to plan and develop policy and guidance, which will be shared with the whole industry. The aim is to illustrate the impact of modern living on energy consumption, taking into account new technologies such as electric vehicles, solar panels and heat pumps.

This partnership is the first of its kind, with projects taking place on six key sites. In these locations we use monitoring to provide vital information for future planning and to gain a greater understanding of customer behaviours and low carbon technologies in real world scenarios and the impact on the network.

This forward-thinking collaboration ensures we are both working with challenging customers, with their needs at the core.

Engagement and Project Manager
Eddie Mulholland, District General Manager

Actions we achieved this year

- ☑ **NEW: Installed monitoring equipment in six substations** – to obtain fuller view of electricity demand, enabling plans for building new homes to deliver on the ever changing future energy needs of customers. Using this data to develop a more accurate maximum electricity demand for a smart home.
- ☑ **NEW: Data sets shared with Strathclyde University** – to enhance analysis on impact of electric vehicles and other low carbon technologies.

The benefit this delivers to customers and stakeholders

- With a combination of multiple data sets, creating intellectual guidance and advice for efficient future housing projects and planning.
- Greater understanding of impact reduces the need to upgrade current infrastructure, saving time and money. Less disruption and more cost savings to customers.
- Dissemination of learnings shared with housebuilders and other utilities, for the benefit of all customers.
- Plans to extend the trial to additional partners.

Expected societal benefits over 10 years for CALA Homes project
£1 cost / £14.33 benefit

QUICKER – *An Innovative Network*

"With our energy system changing dramatically, it is vital we respond rapidly and seize the opportunities that are created by the growth in demand and supply from low carbon technologies seeking to gain flexible access to our distribution systems.

Through our focus and commitment to innovation, we have been building momentum, scaling fast and leading the industry by tackling the technology, frameworks and processes required to succeed in our vision of the distributed energy future.

We're delivering a £100m innovation programme, the biggest in the industry, as we work to transform our system to a dynamically managed active network."

Scott Mathieson, Network Planning & Regulation Director

Highlights of our Innovative network engagement

5940 Stakeholders Engaged

64 Engagement Events

NOTABLE ACHIEVEMENTS

Competitive tender process launched for flexible services
116MW of flexibility options offered in order to balance electricity system, avoiding reinforcement costs on network.

Influencing Policy Change
After extensive engagement from our senior team, the Scottish Government released their vision for network businesses. Convened workshop with Scottish Borders and Dumfries & Galloway Council.

Smart Meter Rollout
Update from last year's project to minimise costs and disruption for hard to reach customers by intervening in problem installations – through intensive engagement with suppliers, we have increased our involvement. Our target was to complete 828 proactive interventions; from April 2018 to date we've carried out over 4,000.

Leading the Transition to a Distribution System Operator (DSO)

The feedback which inspired this initiative

'Innovation and the use of new and emerging technologies is critical and you need to ensure the network is ready to support this.'
Quote from Strategic Stakeholder Panel

We have a deep knowledge of our local networks and the customers we serve. We already have significant infrastructure in place to deliver excellent customer service. We can move to the new model quickly and at the best value to customers. A recent Baringa report estimated that the DNO becoming the DSO will avoid up to £3.5bn in costs by 2030 and up to £21bn by 2050.

Our integrated operations in Distribution and Transmission means our Operational Control Centre is already equipped to begin this journey. This is why we have taken a leading role in the industry Open Networks Project.

We are already demonstrating benefits of system operator through transport planning, digital substations and artificial intelligence in our active network management and sequence switching schemes, as well as our new market-making flexibility tools.

We carried out extensive engagement with our Strategic Stakeholder Panel and other expert stakeholders on five options of what our future world might look like, to spark debate on how the system will look, helping us build their priorities into future strategies and plans.

Engagement and Project Lead
Graham Campbell, Head of DSO

Actions we achieved this year

- ☑ **NEW: Appointed a new dedicated Head of DSO** – to drive strategic direction.
- ☑ **NEW: Launched 'Year of Innovation' campaign** – to promote innovation culture within SPEN, paving the way for DSO – based on benchmarking outside industry, with Barclays (Digital Eagles), Cisco and Telefonica.
- ☑ **NEW: One of only two DNOs to run competitive flexibility tenders as part of the PICLO Flex platform** – providing new trial platform for customers.
- ☑ **NEW: Two new UK first DSO demonstrator project areas** – launched in Levenmouth and Ellsemere Port, targeting two hard to reach and fuel poor communities.
- ☑ **NEW: Single largest and most capable active network management project in UK launched** – it allows us to monitor and match network capacity with local generation output for distributed energy resources of all sizes – in both Dumfries and Galloway and North Wales.
- ☑ **NEW: IT infrastructure project** – to facilitate a local and flexible marketplace.
- ☑ **NEW: Globally innovative trial of Solid State Transformers** – enhancing network flexibility and releasing additional capacity for the connection of low carbon technologies.

The benefit this delivers to customers and stakeholders

- 116MW of flexibility options offered through new tender process – avoiding or reducing the need for reinforcement of network leading to lower system costs and consumer bills.
- Active Network Management in Dumfries and Galloway will help to achieve a reduction in CO_2 emissions of 522k tonnes by 2031 – equivalent greenhouse gas emissions from 110,000 diesel/petrol vehicles being driven for a year.
- The benefits from solid state transformers could represent a saving of £62m by 2030.

Accelerating New Green Investment Through Engagement

The feedback which inspired this initiative

"We've had problems getting connections for major sites in relation to new projects. How can we work together to ensure appropriate infrastructure to support our development?" Quote from Stakeholder Conference

We have prioritised engagement with local communities, to understand how we can enable faster connection of new green energy projects for challenging stakeholders.

Our active network management system is an innovative approach which allows us to connect new generators to the power network more quickly and cheaply, where previously the network was believed to be at full capacity. In total we have 160MW of new generation projects under this control, with plans in place to have this capability across both networks by end of 2020.

One standout example from our engagement is a waste management facility, proposed by Viridor. The plant itself represented an investment of £177m. The original offer delayed the connection of the site until 2021, due to network constraints in the area, however the facility was integral to government ambitions to deliver a zero waste, circular economy. We used our innovative approach to accelerate the project by providing them with a faster connection.

Engagement and Project Lead
Caryn Jack, Stakeholder & Community Engagement Manager

Actions we achieved this year

- ☑ **NEW: Installed new Artificial intelligence solution** – Using Active Network Management hardware and software.
- ☑ **NEW: Accelerated connection to the grid** – 3 years quicker from 2021 to 2018

The benefit this delivers to customers and stakeholders

- As a direct result of our innovative connection, the accelerated timescale enabled Viridor to secure a £700m contract, supporting 55 new jobs and diverting 4.2m tonnes from landfill.
- The construction of the plant will allow the developers to deliver a robust package of community benefits focused on employment and training, support for local business and education through Viridor's partnership with the Engineering Development Trust with the operation of the plant boosting the East Lothian economy by £10m each year.
- On a wider social and environmental front, the plant will process 300,000 tonnes of waste per annum diverting 7.5m tonnes from landfill over 25 years with the plant producing enough continuous energy to power 39,000 homes. In addition, the plant supported around 350 jobs during construction.

Expected societal benefits over 10 years for Viridor project
£1 cost / £10.77 benefit

Pioneering Smart Street Project

The feedback which inspired this initiative

"Collaboration is key in order to move to a low-carbon organisation, improve transparency, and enable customers to become 'prosumers'." Quote from Strategic Stakeholder Panel

Last year we mentioned the Glasgow Smart Street project, which has progressed this year. With a lack of understanding of how best to control and support multiple low carbon technologies on the network, there was a need to gain better understanding on how to support an ageing network, integrate smart technologies, whilst reducing carbon footprint, fuel poverty and pollution in cities.

Working with Glasgow City Council, and other partners, the project is bringing smart cities to life through technological innovation. Glasgow is now leading the way to become one of the most sustainable and smart cities in Europe. We have just received the Smart Cities Award at the Network Awards in March 2019 for our pioneering role in smart city planning.

Engagement and Project Lead
James Yu, Future Networks Manager

Actions we achieved this year

- ☑ **NEW: Piloting new, controllable smart technologies** – to provide renewable energy generation, distribution and storage.
- ☑ **NEW: Created ground-breaking IT platform** – to manage multiple technologies and forms of energy, e.g. allowing management of a number of electric chargers in Glasgow.
- ☑ **NEW: Trialled adaption of street lighting columns and use of solar canopies** – to enable electric charging.
- ☑ **NEW: Pioneering use of storage** – 50kW electricity batteries added in the basement of multi-storey flats, with the intention of bringing financial benefits to customers.

The benefit this delivers to customers and stakeholders

- Expecting reductions on fuel bills through the 50kW battery, helping to significantly reduce fuel poverty.
- Encouraging more electric vehicles into the city to reduce pollution, improving air quality.
- Increasing the number of available chargers in the city without adding any additional street furniture.

Expected societal benefits over 10 years for Smart Street project
£1 cost / £8.08 benefit

Examples of Other Engagement

Given our space restriction, we can't tell you about everything we are working on, so here is a snapshot of what else we have been delivering this year.

	Engagement Methods	Number of Events	Example Feedback from Events	Example Actions	Example Benefits Delivered
Better	**Dialogue** e.g. face to face meetings, panels, partnerships	27	*Support local authorities with innovation and ideas for low carbon projects* – **Stakeholder Panel 2018**	Working with the Dumfries and Galloway Council on Electric Refuse Collection Vehicle Project to replace end-of-life diesel vehicles through funding to supply a new electric leased vehicle.	Reduced noise pollution in residential neighbourhoods and potential to extend operational hours. It will help reduce emissions and improve local air quality. The project has potential to offer a viable financially secure option to significantly reduce air pollutants.
	Consultation e.g. workshops, public meetings, consultations	26	*You cannot achieve waste management targets without first addressing waste minimisation* – **Sustainability Working Group 2018**	Two drivers in the strategy have now been merged within our strategy. Raw Materials and Waste Management have now become 'Sustainable Resource Use'.	SPEN now have processes in place to directly address and consider how we use our resources sustainably e.g first requirement issued to suppliers requiring environmental data of equipment.
	Information Gathering e.g. Focus groups, customer research	5	*Prioritise jobs and employment opportunities for young people ensuring a skilled workforce for the future in light of changing technologies* – **Young Energy Force Group (Future Bill Payers) 2018**	Formed partnership with Edinburgh's Heriot-Watt University to develop the SP Energy Networks engineering scholarship to inspire the electrical engineers of the future and help offset future skills shortages in the field.	Students are supported financially through their studies via a mentoring programme with someone in the business to inspire and give them real insights. They also take part in a ten-week summer placement working across different departments. The University say they have seen 70% female applicants for the scholarships, which they say is a direct by-product of our engagement.
	Information Giving e.g. face to face, awards, conference	5	*Empower house builders with more information about network reinforcement requirements* – **Homes for Scotland**	New partnership with Homes for Scotland – improving working relationship and networking opportunity with house builders.	Raising awareness of critical engagement between developers and DNO – topics around electric vehicles, connections and future proofing.
Future	**Dialogue** e.g. face to face meetings, panels, partnerships	45	*Engage with local communities with their plans for low carbon technologies and use of local sources of existing and new renewable energy* – **Stakeholder Conference, Liverpool, 2018**	Joined the Community Steering Group for Ettrick Valley and Yarrow. Identifying appropriate network studies to ensure best value and experience of the technology where we can support their deliverables. Provided funding and leveraged additional funding from Government CARES fund.	Our knowledge and ongoing learnings from this particular project will now be shared within other local communities to provide social and financial benefits. As members of the Scotland's Towns Partnership Board we are able to contribute to town planning for green economies and smart towns.
	Consultation e.g. workshops, public meetings, consultations	48	*A number of councils are trialling use of lampposts for EV charging. It would be good to evaluate the pilots and review the issues* – **Edinburgh City Council**	Carried out feasibility study using current street lighting to provide charging points in Edinburgh and presented case study to Edinburgh City Council to analyse technical issues and impacts on the network.	A joint decision has been taken with Edinburgh City Council to stop further street light trialling due to the issues presented in our report and supported by further social calculations. Although technically feasible, the issues i.e. parking, charging time and costs are complex and require funding. Agreement to keep issue under review.
	Information Gathering e.g. Focus groups, customer research	10	*Engage more with young people and promote engineering careers to girls* – **Young Energy Force Group (Future Bill Payers) 2018**	Now sponsor Women's Scotland Ruby Team and Men's Under 18s. Utilised recognised hashtag #notjustforboys to reach a broader audience.	Alignment with encouraging girls to sport of Rugby and taking up STEM subjects and engineering careers. Increased awareness, safety messaging and promotion of STEM subjects through community engagement.
	Information Giving e.g. face to face, awards, conference	188	*How can we educate and embed resilience within our communities?* – **Education Scotland**	Collaboration with a number of partners including SSEN, Scottish Government, SEPA and Scottish Water to fund an Education Officer to work in schools to focus on subjects such as flood prevention, isolation, severe weather.	Through appointment of Education Officer, 21,459 children have been exposed to Community Resilience Learning experiences through school, or through dialogue and support with STEM advisors and Local Authority Emergency Planning staff.
Quicker	**Dialogue** e.g. face to face meetings, panels, partnerships	22	*How can we support the regeneration of brownfield sites?* – **HALO Project Kilmarnock**	Provided funding towards infrastructure for the Enterprise & Innovation Centre, and the low carbon transport system.	Job creation, economic growth, skills development, employment opportunities, clean energy, affordable housing, green transport solutions and sharing the learnings with others.
	Consultation e.g. workshops, public meetings, consultations	37	*What will the role of SPEN play in the new Distributed System Operator model and how will they manage new services and interaction with National Grid* – **Open Networks Consultation**	· Held two Energy Network Association events with stakeholders · Presented Consultation at our Strategic Stakeholder Panels · Mailshots to our stakeholders · Created DSO fact card · Communicated through Social Media	Following engagement, we know we must prove we are best placed to be DSO. Appointed Head of DSO operations, work specific projects to facilitate a flexible network e.g. Installation of battery storage technology in 150 off gas, electrically heated homes enabling lower fuel bills. Batteries will be linked to make a Virtual Power Plant, providing grid flexibility to the DNO.
	Information Gathering e.g. Focus groups, customer research	2	*Ensure support of new innovative projects and technologies* – **Customer Focus Groups**	Supporting a project to working alongside University of Strathclyde, to combine 5G communications technology and smart metering to manage energy usage across residential heat networks in order to increase energy efficiency and environmental management within housing.	At present around 500,000 residences on communal or district heating systems are unmetered resulting in inefficient energy use and control. The installation of heat metering in unmetered properties allows users to better control their energy usage and control their costs. The integration of advanced communications allows for faster and more accurate remote optimisation and billing.
	Information Giving e.g. face to face, awards, conference	3	*SPEN should promote their ambition and share best practice to demonstrate the benefits for customers and stakeholders* – **Energy Innovation Centre**	We have used the Low Carbon Networks & Innovation (LCNI) conference to showcase our projects and the benefits we deliver to customers and stakeholders. It is also an opportunity to share best practice with our industry colleagues.	Other network operators have adopted our innovations as business as usual, for example aerial surveys, cloud processing and machine learning to develop a complete 3D model of the overhead power network.

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