# **SP Energy Networks**

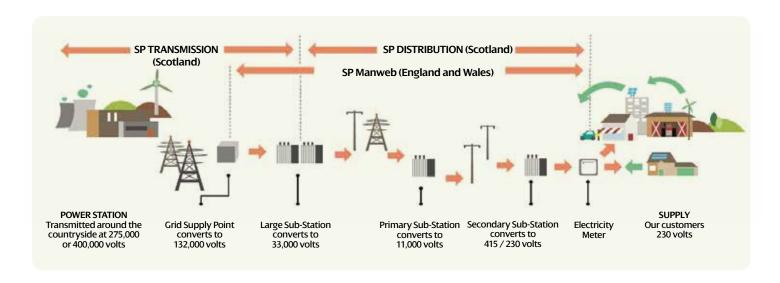
# SP ENERGY NETWORKS

# Distribution Annual Report 2017/18



# **Our Business**

# We transmit, distribute and connect electricity to and from homes and businesses over our network.





SP Manweb 1.5 million customers

SP Distribution 2 million customers SP Energy Networks owns three regulated electricity network businesses in the UK; SP Distribution plc (SPD), SP Manweb plc (SPM) and SP Transmission plc (SPT). This report relates to the performance of our distribution companies, SPD and SPM during 2017/18.

We provide power on behalf of supply companies through a network of cables and power lines that we own and maintain. We transmit, distribute and connect electricity to and from homes and businesses over our network. We work around the clock to keep the lights on 24 hours a day, every day of the year. We serve 3.5 million homes and businesses in three of the UK's largest cities (Liverpool, Glasgow and Edinburgh), as well as three large rural areas (North Wales, Scottish Borders and Dumfries & Galloway).

We take electricity generated from power stations, wind farms and other utilities, reduce it to the low voltage needed for homes and transport it through our vast transmission network. Our distribution network has 33,000 substations, 38,599 km of overhead lines and 66,968 km of underground cables.

We provide customers with new or upgraded connections to our network. For example, to large residential, retail and industrial developments, as well as sports stadia and leisure parks.

# **Welcome**Foreword from Frank Mitchell, CEO

# This report shows how our business has performed during 2017/18.

Welcome to our third Distribution Annual Performance Report. It gives all our stakeholders a clear and comprehensive view of how we are tracking against the commitment we made in our Business Plan which covers the regulatory period from 2015/16 to 2022/23.

It is important for us to deliver against the business plan agreed with Ofgem for ED1, and to consider the priorities of our stakeholders. Our report demonstrates that we have listened to stakeholders, and have seen great progress in many of the areas important to them.

We are proud to be the owner of the network in SPD and SPM, and will continue to strive to serve our customers and provide exceptional value for money, at a time when we are facing an unprecedented level of change to the way in which the UK's energy networks operate. With energy decarbonisation, digitisation and decentralisation, we are moving away from the traditional model where DNOs deliver electricity in one direction from centralised power plants to our homes and communities, to one which requires Distribution System Operators (DSOs) to play an active coordinating role between all market participants.

We are working hard to help the Scottish, Welsh and UK governments to deliver their plans for a greener Scotland and UK and to meet the challenges of the low carbon revolution, with a focus on meeting the needs of both our current and future customers.

We believe all parts of society should benefit from the low carbon revolution, access to electric vehicles and the health benefits of low or zero emissions. There is a tremendous opportunity for the UK to lead the world in this area, however, it is vital that essential infrastructure is planned and deployed in advance to maximise this opportunity and that SPEN facilitates this for its SPD and SPM licence areas.

Frank Mitchell
CEO of SP Energy

Networks



Snapshots
Performance snapshot: SP Distribution
Performance snapshot: SP Manweb

Pg 04 Pg 05

## 2017/18 Outputs

our decision-making.

customers in our communities.

Summaries of all of the key indicators and data by area or theme, in total covering all of our commitments.

Reliability and availability
Keeping the light on. Outputs on the number and duration of power cuts.

Safety
 Protecting the public and the people who work on our network.

Customer satisfaction
 Keeping our customer well-informed, and responding quickly and efficiently to queries.

Stakeholder engagement
 How we are working with our stakeholders, and involving them in

Social obligations
How we are providing additional help and support for vulnerable

Connecting to our network
 Meeting the needs of households, businesses and generators who want to connect to our networks.

Innovation and future networks

How we harness technological and commercial innovation to reduce costs and improve service.

Pg 14

Environment

How we promote the low carbon economy, and minimise our own

environmental footprint.

Expenditure and Revenues

The key facts about our expenditure and revenue, and how it affects your bill.

**Looking forward**Our view of key up and coming topical issues for 2017/18.

Pg 21

Pg 11

Pg 13

Pg 16

Pg 17

## **Appendices**

Further, more detailed and disaggregated information about our performance has been published on our website.

# SPD performance snapshot 2017/18

# Performance Snapshot for our licensed area in Scotland (SP Distribution).



## Innovation

We have been actively pursuing innovation opportunities submitting Network Innovation Competition (NIC) and Innovation Roll-out Mechanism (IRM) bids totalling £21m. We have also been extensively engaging with a range of stakeholders to develop our Distribution Innovation Strategy and are actively seeking and developing innovation projects that align with the key requirements of our stakeholders.

### Safety

We complied with Health and Safety Executive legislation and continued to deliver our Occupational Health monitoring programme.

### Environmental

We have reduced the amount of fluid leaked from our fluid filled cables by 52% in 2017/18. This is a direct result of our ongoing policy of strategic leak repair management and targeted asset replacement of oil-filled cables. By 2015/16 we had reached our 2023 target of a 15% reduction in emissions. Since our 2013/14 baseline year SPD and SPM have achieved a 29% reduction in business carbon footprint excluding losses.

expenditure

		Our network spans over once
Network	Actual	round
Number of customers	2,007,341	the globe
Total network length (km)	58,515	
Reliability and Availability	Actual 2017/18	Exceeding our CI Exceeding our Regulatory target of Regulatory CML target of
Customer interruptions* (Recorded per 100 customers in 2017/18)	41.3	51.6 by 44.8 by
Customer minutes lost* (Average number of minutes our customers had their supply interrupted)	31.2	20%
Customer Satisfaction	Actual 2017/18	This is 7% better than the
Customer satisfaction survey score out of 10	8.78	Regulatory target of 8.2. An exceptional service ranked by the Institute of Customer Service.
Connections	Actual 2017/18	Our aim is to reduce how long it takes to
Time to quote (single premises)	3.2 days	provide a connection offer and the time it takes to make it all happen. This year
Time to connect (single premises)	58.9 days	we took on average less than 4 days to turnaround our connection quotations.
Incentive on Connections Engagement (ICE)	No penalty	
Stakeholder Engagement and Social Obligations	Actual 2017/18	Our positive score reflects the activities we do and relationships we have with a
Stakeholder Engagement and Consumer Vulnerability score	6.35	wide variety of stakeholders.
Financials	Actual 2017/18 (2012/13 prices)	Our daily charges are considerably
Unrestricted Domestic Tariff Charge for a typical domestic customer	£81.27	cheaper than a second class postage stamp, a TV Licence or typical domestic broadband services.
Total expenditure	£200.2m	
Percentage of allowed	98%	

\*excludes exceptional events

# SPM performance snapshot 2017/18

# Performance Snapshot for our licensed area in England and Wales (SP Manweb).

Our Electricity supply is available 99.99% of the time



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expenditure

Network	Actual	Not all electricity networks are the same.
Number of customers	1,512,961	Large parts of the SPM network are configured as an interconnected mesh whereas other distribution networks
Total network length (km)	47,051	are mainly radial.
Reliability and Availability	Actual 2017/18	Exceeding our CI Exceeding our Regulatory target of Regulatory CML target of
Customer interruptions* (Recorded per 100 customers in 2017/18)	30.5	<b>37.6</b> by <b>42.4</b> by
Customer minutes lost* (Average number of minutes our customers had their supply interrupted)	33.0	19% 22%
Customer Satisfaction	Actual 2017/18	This is 7% better than the Regulatory target of 8.2.
Customer satisfaction survey score out of 10	8.81	An exceptional service ranked by the Institute of Customer Service.
Connections	Actual 2017/18	
Connections	Actual 2017/18	
Connections  Time to quote (single premises)	<b>Actual 2017/18</b> 4.8 days	
Time to quote (single premises)	4.8 days	
Time to quote (single premises)  Time to connect (single premises)  Incentive on Connections	4.8 days 44.7 days	Our positive score reflects the activities we do and relationships we have with a
Time to quote (single premises)  Time to connect (single premises)  Incentive on Connections Engagement (ICE)  Stakeholder Engagement	4.8 days 44.7 days No penalty	Our positive score reflects the activities we do and relationships we have with a wide variety of stakeholders.
Time to quote (single premises)  Time to connect (single premises)  Incentive on Connections Engagement (ICE)  Stakeholder Engagement and Social Obligations  Stakeholder Engagement and	4.8 days 44.7 days No penalty  Actual 2017/18	we do and relationships we have with a wide variety of stakeholders.  Our daily charges are considerably
Time to quote (single premises)  Time to connect (single premises)  Incentive on Connections Engagement (ICE)  Stakeholder Engagement and Social Obligations  Stakeholder Engagement and Consumer Vulnerability score	4.8 days 44.7 days No penalty  Actual 2017/18 6.35  Actual 2017/18	we do and relationships we have with a wide variety of stakeholders.
Time to quote (single premises)  Time to connect (single premises)  Incentive on Connections Engagement (ICE)  Stakeholder Engagement and Social Obligations  Stakeholder Engagement and Consumer Vulnerability score  Financials  Unrestricted Domestic Tariff Charge for a typical domestic	4.8 days 44.7 days No penalty  Actual 2017/18 6.35  Actual 2017/18 (2012/13 prices)	we do and relationships we have with a wide variety of stakeholders.  Our daily charges are considerably cheaper than a second class postage stamp, a TV Licence or typical

\*excludes exceptional events



# **2017/18 Outputs** Reliability and

availability

A reliable supply of electricity to homes and businesses is priority number one; a message that our stakeholders consistently endorse. This includes when the network is put under pressure by extreme weather events.

Targets met (and in some cases exceeded) and good performance across range of indicators.

# Examples of our performance in action

### **Storm Ophelia**

'Storm Ophelia' impacted 53,621 customers across both SP Distribution and SP Manweb. 99% of all customers were restored within 24 hours.

## LSS (Logic Sequence Switching)

We already manage the network by automatically restoring a proportion of customers after a fault.

We now have 1,840 LSS schemes built enabling 1.4 million customers to be restored within 3 minutes should they experience a power cut. That's 40% of our customer base.





## Enhancing network resilience

We are currently ahead of our commitments to Ofgem and The Department of Business Energy and Industrial Strategy (BEIS), having achieved 100% compliance with the flood resilience standard (ETR138) in 2015. Subsequently, updated flood modelling and maps have been issued by the relevant environmental agencies. A further 82 sites were identified as potentially at risk of flooding; 20 of these have had detailed risk assessments which confirm they are flood resilient, with mitigation work completed at a further 12. We are currently assessing the implications of the latest issue of ETR138 which recommends additional level of resilience to substations with 10,000 customers. This is another significant step towards our long-term goal of making our whole network resilient to severe weather events

## No power cuts of more than 12 hours

By 2023 we aim to have no customers experiencing a power cut of more than 12 hours. An overall reduction of 76% was delivered by March 2018.

## Fewer and shorter power cuts

By 2023 we aim to have reduced the average amount of time our customers are off supply by 25%, by reducing interruptions by 16% and the duration of interruptions by 27%. By reducing average time off supply by 14% in the past year, we are well on the way to exceeding this target.

# Reductions in the number of customers experiencing power cuts of more than 12 hours

Actual % reduction this year

Target for 2023

**76**%

100%

# Reductions in the average time our customers are off supply

Actual % reduction this year

Target for 2023

14%

25%

# 2017/18 Outputs Safety

Electricity infrastructure is dangerous. The health and safety of the public and of the people who work on our network is paramount. We pride ourselves on our excellent track record and our rigour in retaining this world class level of performance.

Targets met and good performance across a range of indicators.

# Examples of our performance in action

Safety Central, Lymm, Cheshire



Theatr Clwyd Pilot



## Compliance

We can only be leaders in Health and Safety if we comply fully and demonstrably with relevant laws and regulations. In 2017/18 we continued our constructive engagement with the Health and Safety Executive, and were not subject to any prosecutions.

### **Public education**

This year, a third dedicated safety education centre, Safety Central, opened in our operating area and due to our relationships with other centres we were invited to design and install electricity safety scenarios. We piloted an innovative safety school project with Theatr Clwyd. Over the last 3 years we have delivered clear, useful information on electrical safety to c154,000+ individuals of which c50,000 children visited safety centres and c23,000 pupils attended 'Crucial Crew' events.

We supported the development of an agricultural safety film with the ENA called 'Look Out, Look Up' which reached 483,452 people in the SPEN region and over 3.4 million people nationally. We have attended regional agricultural shows, which attracted c405,000 visitors and we continue our support of the Welsh Rugby Union, the Glasgow Warriors, and Rygbi Goglrdd Cymru (RGC) rugby team who have assisted in our engagement with local communities.

## Making our networks safer

In 2017/18 we continued to reposition services and cables in older flats and tenement buildings to make them safer as part of our ongoing programme. We have also made progress on our programme to eradicate all low overhead line clearances across roads.

### Keeping our staff and contractors safe

In 2017/18, we met our targets for lost-time incidents for both staff, and contractors. We continue to strive for zero injuries and continue to record very low rates of incidence.

# **Substation security: protecting people** from themselves

This year we continued to target and implement heightened security at various substations, which we analysed as prone to intrusion. Illegal entry into substations in order to steal metal is highly dangerous for the individual, and reduces protection for the local community.

## Further background

Powerwise - educational website
 from SP Energy Networks that
 teaches children and young adults all
 about electricity and how to stay safe
 around it

# 2017/18 Outputs

# Customer satisfaction

Our customers have every right to expect a good experience when they interact with us – whatever the reason. We are committed to delivering this, and to improving year-on-year against the standard industry-wide metrics.

Exceeding targets in most areas, and continuing a trend of strong, sustained improvement, resolving 80% of all complaints within 1 day and exceeding customer satisfaction targets.

# **Examples of our performance** in action

## Raising customer awareness:

We are continuing to raise awareness of who SP Energy Networks are, and to provide our customers with information of when and how to contact us.

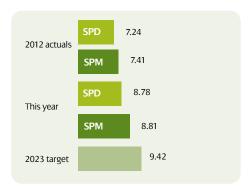
Our press coverage has increased 250% since 2016 and we have seen a 98% increase in Facebook likes and shares/Twitter increased by 12%.





### **Customer satisfaction**

Our vision for 2023 is to achieve a score of 9.42 out of ten for Customer Satisfaction in Ofgem's survey of DNO performance and to be a leader in Customer Service across the UK. This year's score of 8.78 in SPD and 8.81 in SPM is a result we are proud of and puts us ahead of where we committed to be on our journey to a score of 9.42.



## **Complaint handling**

Our customers also need to trust us to handle any complaints properly. We handled 5,590 complaints, and met our target to resolve 95% within 31 days and 80% of complaints within 1 day. We received zero 'repeat' complaints, and none of the five complaints which were escalated to the Energy Ombudsman were upheld.

See appendix A.

## Further background

- Contact us
- Helpful advice during a power cut
- **Home visits**
- Flooding and power supply

## **Responding and communicating**

Our customers need to know that they can pick up the phone and talk to us. We received 736,000 calls this year – of which 547,000 related to power cuts. Our average time to answer the 547,000 calls was 12.4 seconds with only 0.92% of calls being abandoned. Our speed of answer was impacted due to very high volumes of customer calls during Storm Ophelia.



# 2017/18 Outputs

# Stakeholder engagement

From our day to day operations to our evolution into the utility of the future, stakeholders are at the heart of every decision we make.

Targets met across the board, illustrated by positive assurance reports, stable stakeholder satisfaction scores and positive results in Ofgem's annual assessment.

# Examples of our performance in action

First DNO to produce location-specific safety data – 23% reduction in total public safety incidents, through ambitious targeted safety education programmes.

121,402 stakeholders
engaged through
dialogue, consultation
and information
gathering plus 11.3
million reached through
information giving.

More than £9.6m benefit delivered to customers through engagement beyond business as usual in 2017-18.

## **Improving Safety through Engagement**

Dependable, safe electrical supply is a basic need in today's world and we provide a critical service. For that reason, we work with our customers and partners to understand their needs so we can provide just this. We pride ourselves on delivering a safe, flexible service, built to respond to community needs We aim to lead the industry for public safety and strive towards our goal of zero incidents.

Rich safety data is enabling us to target activity. Data showed that 72% of incidents happened in three areas: farms and fields, domestic premises and highways. Extended and created partnerships with stakeholders to focus in these areas, developing projects in: educating children on electrical safety, safety awareness throughout rural and farming communities and reaching communities in high density areas to address domestic premises and public highways.

Our focus has delivered 23% reduction in total public safety incidents.

## **Innovating through new Partnerships**

Our stakeholders told us they wanted us to continue our work building solutions for an open network, for decarbonisation and to lead the way with innovative future energy initiatives.

We now have EV projects with 8 council partners, including enabling rural EV for fuel poverty reduction and enabling electric bin lorries.



SPEN Stakeholder event

## **Collaborating for a Cleaner Future**

Our focus is to deliver fast and efficient renewables connections and capacity to enable the economic transfer of renewable energy from and through our licence areas, whilst achieving neutral or positive environmental impacts. We are doing this whilst enabling the achievement of tough national and international targets aimed at curbing global temperature rises to a maximum of 2°C and helping communities to become more sustainable.

We worked with our stakeholder groups to develop new external and internal funding mechanisms in order to deliver innovative collaboration.

Our new sustainability collaboration fund is enabling focus on delivery of key sustainable objectives included in our strategy. We have also launched a £15m Green Economy Fund.

## **External validation**

Our annual assurance review from external auditors reported strong, continuing progress. The DNO-wide assessment by Ofgem's external panel gave us a score of 6.35/10 for the Stakeholder engagement Incentive which demonstrates significant progress year on year.

## Further background

- Stakeholder events
- Stakeholder reports
- Stakeholder registration
- Join our online community

"Of all the networks, they're the most likely to collaborate. They're helpful, it's part of their culture. They're outward looking." 2017-18 stakeholder survey respondent

# **2017/18 Outputs** Social obligations

The safety and welfare of our customers, especially those who are vulnerable, is our biggest priority.

# Examples of our performance in action

## Our support services offered

- Finding a friend
- Home grocery shopping delivery
- Debt advice
- Help and advice about benefits
- Energy efficiency advice
- Home safety advice
- Energy tariff advice
- Personalised dementia advice and support
- Good food and good friends
- Bespoke PSR and power cut advice

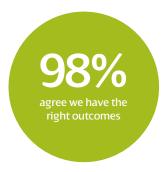
### Support services results

- 99.1% of customers in our low resilience communities experienced power cuts for less than 6hrs
- 8.4% improvement in interruptions for Priority Service Register Customers

## **Vision & Outcomes**

### Vision

SP Energy Networks is recognised by our customers for the support we provide in the communities we serve, treating everyone as an individual with respect and care.



We have 3 outcomes which outline the specific changes we will drive as a result of our actions

### Outcome 1

Our communities are more resilient in vulnerable situations

## Outcome 2

Our customers feel cared for and supported

## Outcome 3

More people are accessing services to support their daily lives

## The results

9.2

out of 10 agree we have the best possible approach.

22%

more PSR customers this year

1202

Support Services delivered

£238k

Benefits delivered through our 10 support services

99.1%

performance for our low resilience communities

9/10

PSR customer satisfaction in a power cut

1st

in UK for **Customer Effort**  140k

**additional households** added to our Priority Services Register this year

# **2017/18 Outputs** Social obligations

The safety and welfare of our customers especially those who are vulnerable is our biggest priority.

Outcome 1 –
Community Resilience
Our communities
are more resilient in

Over a fifth of our customer base is on our Priority Service Register (PSR), an increase of 22% on last year. These customers are proactively supported in a variety of ways during a power cut and registered against individual categories on the PSR because we know that customers have multi layered-needs.

vulnerable situations

We strive to reach the communities we know are the least resilient when the power goes off. We have registered 28% of customers on our PSR in 1,100 communities identified as Low Resilience.

We delivered 1,202 services to support customers through our 10 support schemes, because customers tell us they struggle in their daily livers and our services make them more resilient. The support services we have provided have delivered.

£238,848 of tangible benefits to customers.

On target 2)

Outcome 2 – Cared for customers Our customers feel cared for and supported

It is important to measure ourselves against the best in the UK. We want to make sure that customers find it easy when they contact us and that we do the hard work for them.

We achieved 84.5/100 in the UK's Institute of Customer Service UK Benchmarking Score. We were ranking 7th in the UK across all service sectors, reaching 1st place in the Utilities Ranking and Customer Effort rankings.

Our satisfaction for customers on our Priority Services Register during a power cut is 9/10.

3)

Outcome 3 –
Accessing services
More people are
accessing services to
support their daily lives

We aim to ensure our PSR reflects the needs of consumers who need our support in a variety of different ways. When we compare our PSR profile to national data, we have worked hard to reach customers who need our support.

We have increased the number of

- Elderly customers on our register by 305,000
- Disabled customers on our register by 89,000
- Dementia Sufferers on our register by 4,613
- Blind & Partially Sighted customers by 9,532

On target On target







Finding a friend and grocery shopping are just two of the many support schemes we offer to our vulnerable customers.





On 2017/18 target



Partially or marginally below 2017/18 target



# 2017/18 Outputs

# Connecting to our network

We go the extra mile for our customers – far beyond the typical energy business remit – engaging through social media, innovating and preparing for the future.

We continue to ensure that our stakeholders are at the forefront of our work plans.

# **Provision of Quotations**

In 2017/18, we received 33,305 enquiries. 23,392 quotations were issued.

In SPD, our average time to quote was 3.2 working days for single premises, and 7 days for multiple premises. The corresponding average time to connect was 58.9 days and 69.6 days, from accepted and payment.

In SPM, our average time to quote was 4.8 working days for single premises, and 10.1 days for multiple premises. The corresponding average time to connect was 44.7 days and 65.9 days, from accepted and payment.

### Stakeholder feedback

Feedback received during the summer of 2017 showed that our customers felt they would like more interaction with our connections management team responsible for helping our customers connect to our network.

Listening to our customers and responding to their requirements is an integral part of our engagement and is at the heart of everything we do. Therefore we responded quickly and introduced new initiatives into our engagement plan for the latter part of 2017 and early 2018.

We developed the Areas of Responsibility Map & Key Contacts List for both licence areas. These have received excellent feedback and are now available on our website.

We set up and hosted our first Owner Operator Forum in March 2018. This gave our 'already connected' customers the opportunity to visit our control room and meet the staff who manage our large customers on a daily basis.

Due to the success we will now be hosting two similar events per year across both our licence areas.

Our Stakeholder Engagement and Communications team received the Utility Week Awards 2017 title of "Customer Facing Team of the Year".

## **Facilitating competition**

We have continued to promote the benefits of the new Connections Code of Practice (COP with Independent Connections Providers (ICPs) Independent Distribution Network Operators (IDNOs) and stakeholders, utilising various communication channels and holding workshops. We hold district level meetings with Independent Connection Providers (ICP).

We've also held workshops to reaffirm the COP process and promote its use.





Feedback on key actions were repeated across all three source areas, which is why although we have 25 sources we only have 11 actions.

## Further background

- Guaranteed standards of performance
- Charging methodology and statements
- <u>Code of practice promoting</u> <u>competition in the connections process</u>
- Our Incentive on Connections
   Engagement Report- showing our
   connections work plans looking
   forward and back

# Examples of our performance in action

"As both a landowner and developer, it is particularly pleasing to note that SPEN is committed to continually reviewing its processes for securing Land Rights and improving Communication Channels."

Theo Philip -3R Energy

"Your website looks much better and is easier to navigate." Simon Dawson -GTC



# 2017/18 Outputs

# Innovation and future networks

Our innovation focus remains firmly centred on our customers and stakeholders, who shape both our Innovation Strategy and innovation project portfolio, which could help towards the successful delivery of our RIIO ED1 Business Plan.

Expected benefits of innovation projects are being realised and embedded into our business as usual.

## **Distribution Innovation Strategy**

In March 2018 we launched a completely redeveloped innovation strategy to better reflect the changing energy landscape and the innovation needed to drive energy systems. Our new Distribution Innovation Strategy was the result of over a year of development and extensive stakeholder engagement, this strategy:

- •Outlines our vision to pioneer and deliver a flexible, sustainable and efficient network;
- Serves as a roadmap to align and coordinate our activities to ensure our shared vision is fulfilled;
- •Fosters collaboration with stakeholders by providing clarity and transparency on our key areas of focus for innovation; and
- Outlines our principles on why, when and how we innovate to deliver value to customers

The strategy underpins all that we do - from improving the day to day reliability and sustainability of our network, to supporting our transition to become a Distribution System Operator. Our innovation strategy is designed to ensure our customers and stakeholders are at the heart of what we do as we become the utility of the future.

### **Fusion**

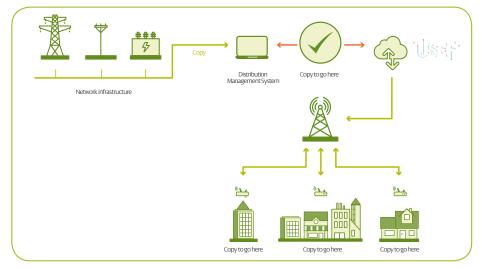
Project FUSION will be the UK's first demonstration of the Universal Smart Energy Framework (USEF)-compliant flexibility trading platform.

The project will build on the success of the LCNF 'Flexible Networks' project, which laid the foundation for this trial by successfully installing state of the art network monitoring and control devices across the heavily constrained 11 & 33 KV networks in east fife. Project FUSION will harness the value of this network visibility and control by commoditizing local demand side flexibility via the introduction of an online trading platform and structured market-based trading framework.

This commercialisation of demand side flexibility through a universal, standardised market-based framework will leverage market competition to ensure that flexibility is deployed competitively to provide a cost-effective and competitive solution to alleviate distribution network congestion, and complement national balancing requirements.

Ofgem's 2017 Network Innovation Competition Expert Panel Report published by Ofgem recognised the unique learning FUSION can offer to the GB industry.

## **Fusion**





# 2017/18 Outputs Innovation and future networks

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### LV Engine

Our LV Engine project, is a key enabler of a future Distribution System Operator (DSO). Funded by Ofgem's 2017 Network Innovation Competition (NIC), this award-winning 5 year flagship smart grid project will carry out a globally innovative network trial of Smart Transformers to facilitate the connection of low carbon technologies whilst delivering value for money for our customers.

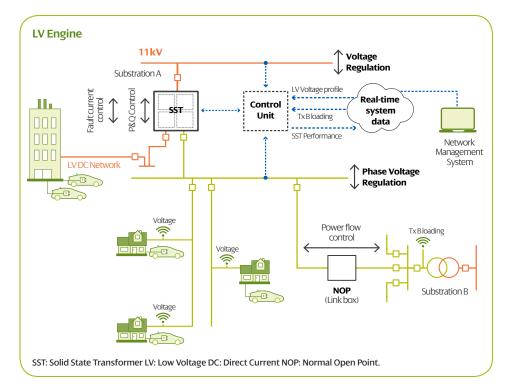
We lead the project in partnership with UK Power Networks and a number of other external partners. Together, we are developing a radical approach to 11kV and Low Voltage (LV) network design and operation through a number of Smart Transformers for deployment within secondary substations.

If successful, LV Engine will demonstrate an alternative approach to conventional network design and operation providing the DSO with a number of tools necessary to operate more intelligently within the LV distribution network.

## **Open Innovation**

The Open Innovation model has been developed to bring together the company challenges and the innovators. We have run numerous design challenges for our staff, contractors and suppliers to generate innovative ideas to challenges facing both SPEN and wider industry. We will be implementing a software portal to gather challenges from our internal stakeholders, and enable collaboration on ideas between departments and functional teams. We have involved a number of external subject matter expert communities, including the Scottish Enterprise Portal, the Energy Innovation Centre and online solver communities.

Open Innovation has allowed SPEN to solve some of our long-standing issues; for example, it has helped to resolve issues with G38 Cable Terminal Monitoring and our HV/LV Cable Detector. It is helping us improve our operations and processes, and better engage our staff and contractors.



## Further background

- ANGLE DC Project
- Network innovation allowance report
- Innovation strategy



# 2017/18 Outputs Environment

We have a key role in enabling greater adoption of low carbon technologies (LCTs), such as Electric Vehicles and micro-generation. We are also focussing on reducing the environmental impacts of our own operations.

In this 2017/18 distribution report we provide an overview of our environmental performance against our ED1 Commitments and give examples of the specific initiatives driving progress as part of our longer term strategic plan.



Snowdonia National Park



Before



After



SPEN electric vehicle

## Our own carbon footprint

By 2015/16 we had reached our 2023 target of a 15% reduction in emissions. Since our 2013/14 baseline year SPD and SPM have achieved a 29% reduction in our business carbon footprint excluding losses. This year we have seen a further reduction in Buildings Energy use, operational vehicle use and business travel. We continue to target the number of our contractors providing emissions data. This focus has lead to an increase in contractor emissions recorded.

Visual amenity in Areas of Outstanding Natural Beauty (AONB), National Scenic Areas (NSA) and National Parks

Progression towards our target to remove 85km of overhead line in AONB continues. Since the start of ED1 we have removed a total of 12.05km of overhead lines with 8.5 km removed in the 2017/18 reporting year. The pictures show before and after photographs from work carried out at the village of Rhyd Ddu in the heart of Snowdonia, a location where many walkers start their journey up Mount Snowdon. The OH line ran in parallel with the route of the Welsh Highland Railway, just as the first views of Snowdon come into view.

# Increasing the use of electric vehicles and charging points

In December 2017 we launched a 6 month trial of 5 electric fleet vehicles, initial feedback has been extremely positive, and we eagerly await full results of the trial.

We have enabled Electric Vehicle projects with 8 council partners, including enabling rural EV for fuel poverty reduction and enabling electric bin lorries.

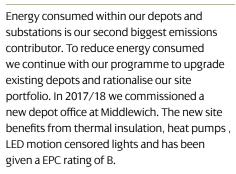
In addition to this, Electric Vehicle charging points were installed at a further 3 of our depots in 2017/18 reporting year with plans in place to install at a further 5 sites in the coming year.

## **Facilitating Low Carbon Technologies**

We are facilitating new carbon technologies – this includes the facilitation of Heat Pumps, PV and Electric vehicles. The uptake of heat pumps remains slow in comparison to ED1 forecasts. Whilst the volume of recorded new EV charge points (slow and fast charge) continues to increase, year on year.

In 2017/18 we installed a total of 2717 of Low Carbon Technologies (equivalent to 151 MW).

# Monitoring and reducing the energy used within our site portfolio



In summer 2017 our new Headquarters were opened in Glasgow. The new building has a BREEAM Excellent rating and benefits from high performance wall insulation, air source heat pumps and low energy lighting with automatic daylight and presence detection.

## Further background

- Environmental report
- Losses strategy Reducing network energy losses and greenhouse gas emissions







# **SP Energy Networks**Distribution Annual Report 2017/18

# **Expenditure and revenues**

'RIIO' is Ofgem's framework for setting price controls for network companies. RIIO stands for Revenue = Incentives + Innovation + Outputs. Effectively, this means that we are only rewarded for delivering exceptional performance in our incentive, outputs and innovation.



# **Expenditure and revenues** Our financial performance

# The key facts about revenues and expenditure this year:

# Our allowed revenues

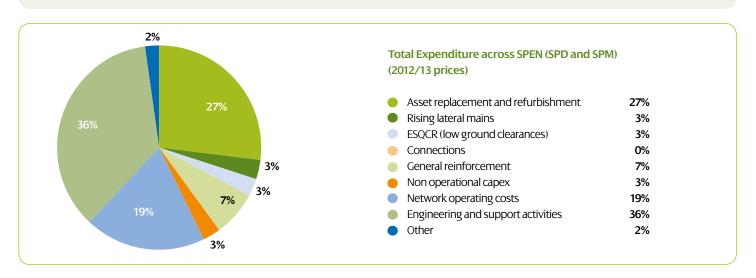
The amounts we are permitted to recover from our customers for using our network services during 2017/18. In total, and what it implies for our Unrestricted Domestic Tariff Charge:

	SPD (£m)	SPM (£m)
Total Allowed Revenue	381.4	334.2
	SPD (£)	SPM (£)
Unrestricted Domestic Tariff charge	81.27	92.48

# Our expenditure on our network (2012/13 prices)

A breakdown of how we are using our revenues to strengthen and extend our networks:

	SPD (£m)	SPM (£m)
Engineering and support Activities	78.6	79.2
Asset Replacement and Refurbishment	44.5	75.1
Network operating costs	35.0	46.3
Rising lateral mains	7.2	3.6
ESQCR low ground clearances	9.1	5.6
General reinforcement	14.7	16.6
Non operational capex	7.0	7.0
Connections	1.2	0.6
Others	2.9	7.1
Total (£m)	200.2	241.1



# **Expenditure and revenues** Our financial performance

The key facts about our performance this year under the various financial incentives that all Distribution Network Operators are subject to.

In 2017/18, we earned a £20.56m reward for going above and beyond delivering a safe, secure and reliable service to our customers and meeting our stakeholders' needs (2012/13 prices).

# Performance-related financial incentives

How our performance this year translates to rewards or penalties under the various financial incentive mechanisms put in place by the regulator, Ofgem, and applied to all Distribution Network Operators (DNOs).

	SPD (£m)	SPM (£m)
Reward or penalty schemes		
Interruptions incentive	+8.8	+4.8
Customer satisfaction	+2.1	+2.0
Penalty-only schemes		
Incentive on Connections engagement	0	0
Reward-only schemes		
Stakeholder engagement incentive		
Customer vulnerability incentive	+0.8	+0.8
Time-to-connect incentive	+0.6	+0.6
	+12.3	+8.2
Total licensees combined (£m)		+20.5



Interruptions incentive example: Maintaining our network and being well prepared for severe weather events.



Stakeholder engagement and consumer vulnerability incentive example: Tackling wider social issues such as loneliness, social isolation, depression, anxiety and independence.

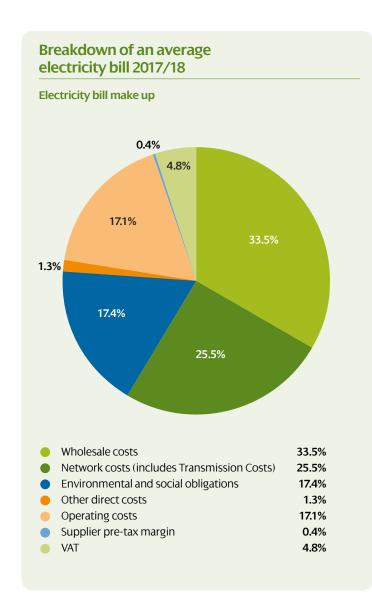
## Further background

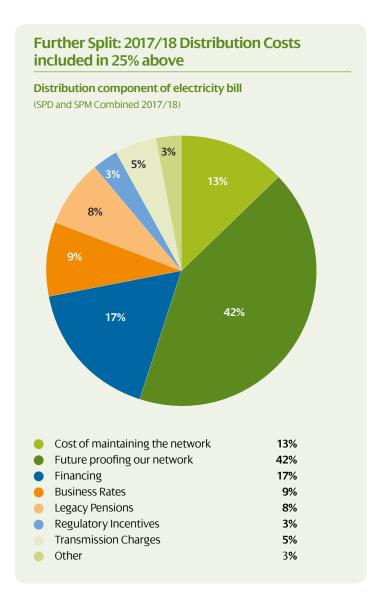
- Interruptions Incentive (See pages 33-35 of Ofgem's ED1 Strategy Decision)
- Customer Satisfaction (See pages 62-64 of Ofgem's ED1 Strategy Decision)
- Incentive on Connections Engagement (See pages 81-82 of Ofgem's ED1 Strategy Decision)
- Stakeholder Engagement Incentive and Consumer Vulnerability Incentive
  (See Ofgem's Stakeholder Engagement and Consumer Vulnerability Incentive Guidance)
- Time to Connect Incentive (See page 81 of Ofgem's ED1 Strategy Decision)

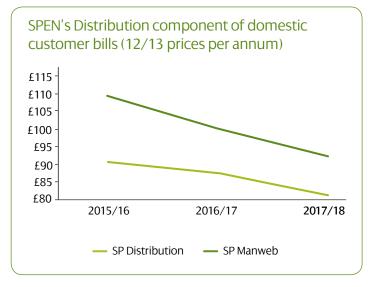
# **Expenditure and revenues** Bill impact

The key facts about the make up of distribution network costs which represent your annual domestic electricity bill in 2017/18.

SPEN's Distribution component of domestic customer bills has fallen by 12% in real terms since the start of the current price control.











# **Looking forward**Smart meters

By 2020 energy supply companies will have offered 50 million customers a smart gas and electricity meter.

Although the installation of Smart Meters is carried out by energy supply companies, Distribution Network Operators (DNOs) have an important role to play.

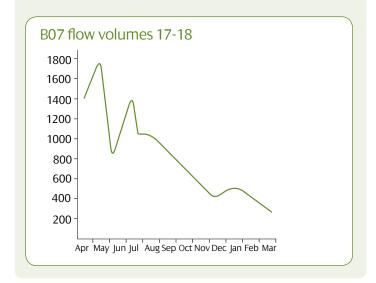
# Smart Meter Systems and data

When Smart Meters are installed, our Smart Meter Systems team focus on the data which will be useful to a DNO to create benefits for customers.

As the amount of data available increases we will have more detailed information about the end points of our network. This will better inform the design and management of the network as we respond to the uptake of low carbon technologies, help us identify power outages and consequently improve our service to customers.

To access this data we have a new IT platform in place to connect to the centralised industry system, the Smart Data Communications Company (DCC).

This new platform allows us to securely access Smart Meter data.



# Championing a better customer experience

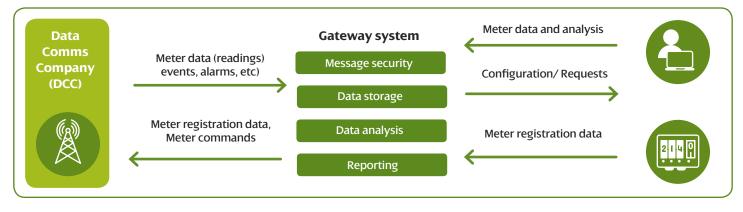
In a number of properties we are required to upgrade our assets to enable the fitting of a Smart Meter or to respond to an emergency situation. These are known as interventions. Our Smart Metering Operations team are responsible for upgrading our assets. In 2017 the team recognised that they were receiving a high number of requests to upgrade in a large number of flatted properties in Glasgow and Edinburgh.

Upon investigation it was identified that there was a specific design issue with these properties which the meter operators did not know how to deal with and this prevented them from installing a smart meter during their first visit. This type of intervention is known as a B07.

To resolve this we built a training workshop to train the meter installers how to install a meter in these conditions. We trained over 500 meter installers in this technique – and many passed this training on to additional staff. As a result of this, the volume of requests to upgrade the assets was reduced and more customers are now getting their smart meter installed successfully during the first visit.

This initiative will improve the smart meter installation experience for many more customers going forward. We have shared this initiative with our colleagues in the other DNOs.





# Looking forward The distribution system operator

Network companies are key facilitators in increasing productivity by introducing new technologies to support economic growth and increasing the working age population as a result of job creation.

The UK's Network Operators have a significant part to play in meeting Government carbon reduction targets. Our ultimate aim is to empower our cities and communities to achieve the economic and health ambitions which can be realised from a low carbon economy.

## **EVS**

There is a growing certainty that the rate of uptake and ultimate scale of EVs will have a major impact on electricity networks in the future. This impact will be a function of: the rate of uptake; charging technology; customer charging behaviour and; the level of EV charging management that can be implemented.

Swapping a conventional combustion engine car for an electric version could provide annual fuel savings of over £1000 for a typical user. Combined with the Scottish Government's target to remove the need for carbon emitting cars by 2032 and the prediction that electric vehicles (EV) will become cheaper than traditional vehicles by 2022, we can expect mass uptake of EV in the next decade.

As part of a global group, benefitting from experience internationally, we will continue to work to assess the network impact across a range of future EV uptake scenarios in the UK. The network needs to be upgraded and reinforced to deal with the forecast uptake of EVs.

We believe this investment requirement can be significantly reduced if smart solutions, such as managed EV charging, are introduced in a managed and coordinated fashion via the Network Operators, whilst ensuring access remains affordable and equitable to all consumers.

Swapping a convention combustion engine car for an electric version could provide 'fuel' savings of over £1000 for a typical user.



Charging an average domestic EV at home every night would almost double the electricity consumption of the home.

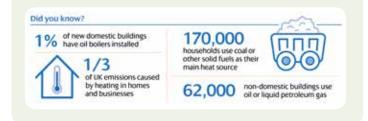


## **Heat**

The complete decarbonisation of heat is also essential by 2050 if the UK's carbon reduction targets are to be achieved. Whilst the UK's strategy is currently considering all possible technologies for this transition under all scenarios electrification of heat has a major role to play and may be the dominant solution. Should this happen it has the potential to place additional demand on networks several times that of customers adopting EVs due to the higher energy requirements of these systems.

As with EVS, facilitating this transition will require major network reinforcement. However, what is currently less certain is the predictability of the uptake of electric heating. As a DNO/DSO, we have to ensure we are prepared to meet this challenge and are capable of deploying this reinforcement efficiently and ahead of customer need. As such, we will remain vigilant on national policies and the uptake of decarbonised heating by our customers.

Our ED1 plans were aligned with BEIS and industry low uptake scenarios, as we also believe that the majority of the early adopters of decarbonised heat will be off gas grid customers, many of which are classified as fuel poor. It is our intention to initially focus on these customers and the network to support them to see how our network can evolve to meet this new demand and better serve our customers moving forward.





# Looking forward The distribution system operator

The UK's Network Operators have a significant part to play in meeting Government carbon reduction targets. Our ultimate aim is to empower our cities and communities to achieve the economic and health ambitions which can be realised from a low carbon economy.

## DSO Role

The UK's energy networks have been operating under a traditional model whereby the DNOs deliver electricity in one direction from centralised power plants, to our homes and communities.

Looking forward, the evolution of the energy sector towards a smarter system will only be possible if Distribution Network Operator's (DNOs) play an active coordinating role between all market participants, facilitating the markets and services in a neutral and non-discriminatory manner.

This can be achieved by extending the current role of DNOs to that of Distribution System Operators (DSOs). An effective DSO model will help deliver the low carbon transition with the lowest overall cost to customers, whilst enabling the flexible networks necessary to facilitate customer's use of low carbon technologies. Transitioning from a DNO to DSO model needs a coordinated and supportive regulatory regime which allows DNOs to fully utilise their localised knowledge as DSOs, as this will deliver the optimal outcome for consumers.

Through the Open Network Project, we will continue to work collaboratively with other Network Operators to drive forward the development of the DSO model to benefit consumers.

www.energynetworks.org/electricity/futures/open-networks-project/

# **Charging Futures**

It is important that the move to a smarter energy system is enabled without incurring unnecessary additional costs and in a way that treats people fairly. This may mean that some of the existing ways in which network operators charge for accessing and using the network will need to be revised to reflect the changing use of the network. We need to ensure that the impacts of vulnerable customers are fully considered before any revised charging arrangements are implemented. Vulnerable and fuel poor customers who are unable to respond to more complex price signals should not be expected to subsidise others in society and we will continue to work with the regulator and other stakeholders in the ongoing review of network access and charging arrangements to develop new arrangements that treat people fairly.

www.chargingfutures.com/about-charging-futures/





## Contact us

# How you can get involved

# Stakeholder engagement workshops

If you are interested in our services and projects, if our work has the potential to impact you, or if you have an influence over the work we do, then you are a stakeholder. We want to know your views on our plans, so that we can deliver the best service possible.

We already work with a wide range of stakeholders, including domestic customers, local authorities, charities, other utilities, people wishing to connect to our network, school pupils, vulnerable customers and innovators amongst others.

Registering as a stakeholder is easy, and enables you to have your say on our projects and services. Please register here: www.spenergynetworks.co.uk/register



# General enquiries

Please call us free on: 0330 1010 444 Email: customercare@spenergynetworks.com

Central and Southern Scotland

Customer Service SP Energy Networks

SP House 320 St Vincent Street

Glasgow G2 5AD

To report a power cut or damage to electricity power lines or substations, call the new national Freephone number - 105.

You can still reach us on our existing numbers:

Central and Southern Scotland Cheshire, Merseyside, N. Wales and N.Shropshire

Cheshire, Merseyside, N. Wales

**POWER CUT?** 

**CALL 105** 

and N.Shropshire

**Customer Service** 

PO Box 168 Prenton CH26 9AY

SP Energy Networks

0800 092 9290

0800 001 5400



# **SP Distribution and SP Manweb**Annual Performance Report 2017/18

# Appendix A

Our business plan commitments in full

# Reliability and availability

We are committed to improving the reliability of supply to our customers. Strong stewardship of our assets is achieved through knowing the health and criticality of our equipment in order to target our investment appropriately.

	Commitment	SPD this year	SPM this year
<b>☆</b>	Reduce by 100% the number of customers experiencing a power cut greater than 12 hours by 2023.	A reduction of 89% by March 2018 against our baseline. Still on track to achieve target by 2023.	A reduction of 62% against our baseline by March 2018. Still on track to achieve target by 2023.
<b>⇔</b>	Reduce the average number of times our customers lose their power supply by 7%. Reduce the length of time those customers are without power by 16%. By doing this reduce the average time our customers are off supply by 25%.	Interruptions down by 20%, and average duration of each interruption down by 15%. Well on track.	Interruptions down by 10%, and average duration of each interruption down by 14%.
•	Improve service to 40% of our poorly served customers.	Improved service to 24%. Well on track for 2023.	Despite an initial improvement of 22%, Storm Ophelia in October 2017 caused performance to slip.
<b>☆</b>	Mitigate pluvial flood risk at 28 high risk grid and primary substations.	Action completed in 2015 – continuing to monitor and mitigate against new risks.	Action completed in 2015 – continuing to monitor and mitigat against new risks.
•	Ensure all rural customers benefit from resilient to severe weather events network by 2034.	Incorporated into investment/ modernisation plans, on track to deliver.	Incorporated into investment/ modernisation plans, on track to deliver.
•	25% of rural high voltage network and a further 16% of low voltage resilient to severe weather by 2023.	Incorporated into investment/ modernisation plans, on track to deliver.	Incorporated into investment/ modernisation plans, on track to deliver.
•	Deliver a guaranteed standard to reconnect our customers within 36 hours after storm events.	22 customers were off supply greater than 36 hours due to Storm Ophelia.	153 customers were off supply greater than 36 hours due to Storm Ophelia and Storm Emma.
•	Accelerate Fluvial Flood protection plans to complete by March 2015.	Action completed in 2015 – continuing to monitor and mitigate against new risks.	Action completed in 2015 – continuing to monitor and mitigate against new risks.
<b>☆</b>	Increase substation resilience to 72 hours.	Action completed in 2015 – continuing to monitor and mitigate against new risks.	Action completed in 2015 – continuing to monitor and mitigate against new risks.



# Customer satisfaction

We engage regularly with our customers to understand what they want from us and act on feedback to improve our service. We have made consistent sustained improvement which has made a significant impact on customers experience.

	Commitment	SPD this year	SPM this year
•	Answer calls in less than 10 seconds and never force disconnect.	12.4 seconds average across both licensees due to Storm Ophelia and 0 calls forced disconnected.	12.4 seconds average across both licensees due to Storm Ophelia and 0 calls forced disconnected.
•	Ensure abandoned calls are less than 1%.	0.96% in Fault and emergencies.	0.98% in Fault and emergencies.
•	Provide restoration time for every outage.	Embedded in standard business process.	Embedded in standard business process.
<b>☆</b>	Write to all customers in advance of planned interruptions and day before reminder by SMS (text).	Embedded in standard business process plus face to face visits targeting 100% Vulnerable Customers ahead of every planned outage.	Embedded in standard business process plus face to face visits targeting 100% Vulnerable Customers ahead of every planned outage.
<b>☆</b>	Respond and resolve all complaints quickly.	87.1% of all complaints resolved within 1 day.	81.4% of all complaints resolved within 1 day.
	Reduce number of complaints by understanding root causes.	Ongoing data analytics, e.g. observed impact of severe weather in 2017/18.	Ongoing data analytics, e.g. observed impact of severe weather.
$ \stackrel{\bigstar}{ } $	Achieve a 20% improvement in industry measure of customer satisfaction scores by 2023.	Actual score of 8.78 puts us well on track for 2023 target.	Actual score of 8.81 puts us well on track for 2023 target.
•	Hot meals and accommodation provided after 48 hours to all customers during exceptional events (after 12 hours for vulnerable customers).	Embedded in standard business process.	Embedded in standard business process.
<b>☆</b>	Benchmark industry performance utilising Institute of Customer Service.	ICS Benchmarked SP Energy Networks 7th against ALL UK service sectors.	ICS Benchmarked SP Energy Networks 7th against ALL UK service sectors.
•	Invest in people at every level.	Designed in to management systems and reporting.	Designed in to management systems and reporting.
•	We will include info about our Guaranteed Standards of Performance (GSOP) in our annual customer awareness campaign.	GSOP information is communicated to customers annually.	GSOP information is communicated to customers annually.
•	We will contact customers impacted by an outage to keep them informed via different channels.	We communicate with customers through multi channels during power outages.	We communicate with customers through multi channels during power outages.
•	We will use Smart Meter data to proactively help customers.	The volume of smart meters which we can communicate with is expected to accelerate in 2018. This will allow us to monitor network load and voltage, enabling us to make improvements to our network for the benefit of our customers.	The volume of smart meters which we can communicate with is expected to accelerate in 2018. This will allow us to monitor network load and voltage, enabling us to make improvements to our network for the benefit of our customers.



# Social obligations

We now deliver a range of services available to all vulnerable customers which have been developed in our most vulnerable communities. We strive to exceed our business plan commitments to ensure that the customer receives the best service possible.

	Commitment	Jointly across SPD and SPM this year
•	Send a welcome letter and info pack to every new customer on the Priority Services Register (PSR).	Embedded in standard business process.
•	Contact vulnerable customers every 4 hours during an unplanned outage.	Embedded in standard business process – with flexibility for more frequent contact if needed.
<b>⇔</b>	Contact all vulnerable customers in advance of planned power interruptions.	Embedded in standard business process to contact by letter and phone – face to face visits targeting 100% Vulnerable Customers ahead of every planned outage.
•	Hot meals, drinks and company offered to vulnerable customers after 12 hours during exceptional events.	Embedded in standard business process.
•	Winter packs issued to PSR customers.	Delivered to all of our PSR registered customers who request a pack as a standard business process – with assistance from Red Cross partners during significant events.
•	Automatic compensation payments following a fault to all PSR customers post 12 hour restoration during exceptional events.	Embedded in standard business process.
•	Proactively contact all PSR customers at least every 2 years.	Embedded in standard business process.
<b>☆</b>	We will always ensure our people are trained to recognise and deal with vulnerable customers sensitively.	186 staff completed Institute of Customer Services training this ye gaining qualifications building on the training delivered to all front line staff last year.
•	We will continue to establish mechanisms to share information on vulnerable customers with other agencies and authorities.	Data sharing through informed consent in place. 146 partnerships helping to shape our strategy, provide delivery services to our customers, and support customers throughout events.
<b>⇔</b>	We will engage with our communities to make them aware of our Priority Services Register and work in local communities impacted by outages to ensure they have access to hot meals, drinks and company. We will continue to work with Emergency Planning Officers to provide support to our vulnerable customers during outages.	Targeted awareness carried out to promote Priority Services Register in our communities through a number of channels specifically aimed at reaching vulnerable customers. Stretching targets in place to ensure we have 80% of customers signed to our register for each category where they are eligible.
•	We will establish an additional fund within ScottishPower's existing Energy People Trust to target initiatives to help vulnerable customers.	As part of our ongoing review of our social plan and in conjunction with our stakeholders we have removed this from our plan and have focused our initiatives in areas of greater need.
•	We will deliver initiatives that will help the fuel poor by working with agencies such as Energy Action Scotland, National Energy Action, Scottish Government Fuel Poverty Group, etc.	We now work with 49 local partnerships to deliver 10 support services to our customers.1202 services delivered this year delivering £238k tangible benefits to customers.
•	We will continue to work with agencies to understand how we can collaborate to best support our customers and communities.	We have worked closely with a number of agencies to understand vulnerability, customer needs and how we can best offer support.



# Stakeholder engagement

We put stakeholders at the heart of what we do; it's part of our culture. Our comprehensive strategy has grown in maturity over the last four years, and is embedded in our organisation at all levels. We deliver it with passion, belief and strong executive leadership, placing robust, meaningful engagement at the core of all our activities.

	Commitment	Jointly across SPD and SPM this year
•	We will continue our annual customer awareness campaign to raise awareness of who SP Energy Networks are, and information of when and how to contact us.	100% increase of calls to 105 - now at 42% of all calls received. Press coverage increased 250% since 2016. Advertisement of Priority Services Register (PSR) - 22% increase of registrations. 98% increase in Facebook likes and shares/Twitter increased by 12%.
•	We will report our performance against plan and outputs at an annual stakeholder event.	Performance reported to stakeholders at Strategic Stakeholder Panels and annual district updates. We have introduced two new stakeholder conferences to enable a more diverse cross section of stakeholders to engage directly with CEO and Executive Team.
•	We will provide an annual stakeholder communication on our engagement activities and actions.	Annual stakeholder engagement report provided to Ofgem and key stakeholders and publicised on our website. Regular online newsletters to stakeholders with details of industry development innovations and investment.
•	We will further develop our online community to support our stakeholder, customer and employee engagement programmes.	Online community improved with extensive investment in portal making it more user friendly and creating better opportunity for stakeholder engagement.
•	We will introduce an annual programme so stakeholders know what engagement to expect.	Embedded business processes for engagement planning supported by new IT system are providing a robust, multi-layered annual engagement programme. We have rising numbers of internal users on the system, allowing for greater sharing of engagement knowledge.
•	We will embrace stakeholder engagement as 'business as usual' and will build on the approach of more focused and centralised engagement.	Our score has risen from 6.28 in 2017 to 6.35 in 2018 for the Stakeholder Engagement Incentive, also increasing our ranking amongst DNO's. This demonstrates impressive progress year-on-year in an incentive scheme which requires significant annual improvement to maintain score.



# **Appendix A:** Connections

Our network is expanding to accommodate renewable generation more quickly than any other DNO. We are providing a better service for new connections by adhering to our business plan commitments.

	Commitment	SPD this year	SPM this year
•	Contact the customer within 1 working day of receiving their application to provide a single point of contact to manage their project through our quotation process.	We endeavour to contact the customer within 1 working day of receiving their application as a standard business process.	We endeavour to contact the customer within 1 working day of receiving their application as a standard business process.
•	Reduce the average time taken to issue quotations year on year.	24% improvement in single premises.	7% improvement in single premises.
•	Contact the customer within 2 working days of receiving their payment to provide a single point of contact to manage their project through our delivery process and where possible provide a date for connection.	90.5% contacted within 2 days.	78.3% contacted within 2 days.
•	Engage and proactively work with our customers to meet their preferred completion and 'power on' date.	99.5% of completion dates are as agreed with customer.	99.9% of completion dates are as agreed with customer.
•	Reduce the average time to deliver connections year-on-year. (The Time to Connect targets are 42.08 for a single property and 52.70 working days for multiple properties).	Our average time to connect was 58.9 working days for single premises, and 69.6 days for multiple premises.	Our average time to connect was 44.7 working days for single premises, and 65.9 days for multiple premises.
•	A 'Process Explained' leaflet will be issued to all customers at initial enquiry stage and is available on the website.	Embedded in standard business process.	Embedded in standard business process.
•	Ask our customers when they want their quote and work with them to deliver a fast-track quotation and connection when they need it.	74.8% of quotes provided within timescales agreed with customer.	98.3% of quotes provided within timescales agreed with customer.
•	Continually develop and improve our processes, based on our customer's expectations and customer feedback.	Ongoing activity – as per our ICE plan.	Ongoing activity – as per our ICE plan.
•	Our processes and internet site will be continually developed and improved, based on our customer expectations and feedback.	Wide range of customer-facing improvements delivered with supporting feedback received from our Major Customer Monthly Survey.	Wide range of customer-facing improvements delivered with supporting feedback received from our Major Customer Monthly Survey.
•	Incentive on Connections Engagement ICE.	Engagement drove 11 improvement actions – 100% of which already delivered.	Engagement drove 11 improvement actions – 100% of which already delivered.
•	Ensure our average time to deliver connections is in the top group of DNOs.	9th in the DNO league table in Ofgem's 2016/17 Annual Report.	8th in the DNO league table in Ofgem's 2016/17 Annual Report.
•	Reduce our general load investment trigger by 20%, enabling quicker connections in future.	We are on-target and delivering against our load related reinforcement plan to facilitate capacity in demand congested areas of network.	We are on-target and delivering against our load related reinforcement plan to facilitate capacity in demand congested areas of network.



# Connections (continued)

	Commitment	SPD this year	SPM this year
•	Use innovative solutions to meet the uptake of low carbon technologies.	We have connected customers using non-firm flexible connections and will be deploying wide scale Active Network Management over the next few years.	We have connected customers using non-firm flexible connections and will be deploying wide scale Active Network Management over the next few years.
•	Ensure our customers are kept informed of the connection process throughout every stage.	Embedded in standard business process – monitoring and reporting in development.	Embedded in standard business process – monitoring and reporting in development.
•	Be proactive in our approach, minimising the need for customers to have to contact us – we will contact them first.	Embedded in standard business process – monitoring and reporting in development.	Embedded in standard business process – monitoring and reporting in development.
•	Communicate with our customers through their media channel of choice.	Embedded in standard business process – monitoring and reporting in development.	Embedded in standard business process – monitoring and reporting in development.
•	Develop communication plans tailored to meet individual needs.	Embedded in standard business process – monitoring and reporting in development.	Embedded in standard business process – monitoring and reporting in development.
•	Through our communication plans we will remove any uncertainty.	Ongoing activity – as per our ICE plan.	Ongoing activity – as per our ICE plan
•	Actively engage customers and stakeholders through events, monthly surgeries, surveys and one to one meetings to understand their ongoing needs.	Ongoing activity – as per our ICE plan.	Ongoing activity – as per our ICE plan
•	Continue to work with our major customers to further improve the service we offer.	Ongoing activity – as per our ICE plan.	Ongoing activity – as per our ICE plan
•	Build our business, operating and improvement plans around the needs of our customers and stakeholders.	Ongoing activity – as per our ICE plan.	Ongoing activity – as per our ICE plan
•	We will continue to work proactively with 3rd party groups wishing to connect to our network.	Partnerships and bi-annual workshops established in 2017.	Partnerships and bi-annual workshop established in 2017.
•	We will continue to promote competition in every way we can.	Covered in our adoption of Competition in Connection Code of Practice, for example additional data on loadings and network maps provided.	Covered in our adoption of Competition in Connection Code of Practice, for example additional data on loadings and network maps provided.
•	We will continue to engage with Ofgem and ICPs to extend the boundaries of competition.	Ongoing engagement – including 2 dedicated workshops in SPD's area.	Ongoing engagement – including 2 dedicated workshops in SPM's area.



# **Appendix A:** Environment

We recognise the significance of our impact on the environment, both as a direct result of our operations and, indirectly, by helping stakeholders achieve their own environmental goals.

	Commitment	Jointly across SPD and SPM this year
•	Utilise Smart Meter technology to ensure all generation sources are supported quickly.	SPEN has implemented an IT solution which allows us to connect to the Data Communications Company (Smart DCC). Only a few "pilot" SMETS2 installations were completed during 2017/18, but we expect this to accelerate in 2018/19, at which point we will have more opportunity to access Smart meter data.
•	Connect 4.5GW of Distributed Generation by 2018, with up to 5.5GW of generation connected to our network by 2023.	Across both licensees to date we have connected 3.85GW of generation to the existing network across a variety of sources.
•	Carry out 'Smart' asset replacement — using future proofed assets where justified.	We have redeveloped our Innovation Strategy, reinforcing our aims of delivering faster, easier connection; preparing the networ for low carbon technologies; and providing network flexibility and communications. These aims are directly reflected in a portfolio of 20 projects ongoing or completed in 2017-18.
•	Identify low carbon technology hotspots using network monitoring, data from Smart Meters and stakeholder engagement.	We are developing the next generation of heat maps to address the uptake of Low Carbon Technologies (e.g. Heatpumps and Electric Vehicles) and will engage with our stakeholders to understand exactly what their future requirements are. This engagement will help us identify the enhanced functionality required.
•	Underground 85km of overhead lines in Areas of Outstanding Natural Beauty.	We continue to target measures to reduce the visual impact of our network by 2023. This year we removed a further 8.5 km of overhead line and installed 5.46 km of underground cable.
•	Install lower loss transformers to reduce losses by 50% at more than 1.300 of our secondary substations.	Our programme to install lower loss transformers continued through 2017/18 when we replaced 60 of our higher loss transformers. Activity in this area will increase as we go through the ED1 period.
<b>☆</b>	Reduce our carbon footprint (excluding network losses) by 15% by 2023.	By 2015/16 we had reached our 2023 target of a 15% reduction in emissions. Since our 2013/14 baseline year SPD and SPM have achieved a 29% reduction in our business carbon footprint excluding losses.
•	Use electronic vehicle management system to optimise our vehicle utilisation keeping vehicle numbers, broadly similar in ED1.	Our vehicle tracking system continues to allow us to track our mobile assets and their emissions effectively. Vehicle numbers remain the same as we progress with the purchasing of new fleet vehicles.



# Environment (continued)

	Commitment	Jointly across SPD and SPM this year
•	Monitor and reduce the energy used within our substations, invest in lower carbon buildings and reduce energy use in existing buildings.	We installed LED and motion censored lights at our sites, commissioned the building of new energy efficient depot office at Middlewich and opened our new Head Quarters with high Sustainability performance.
•	Reduce costs to customers by developing modern "Smart Grid" network solutions	We are carrying out a wide range of projects utilising Smart Grid network solutions to reduce customer costs and encourage greate market flexibility. These include Dumfries & Galloway Integrated Network Management, Project Fusion, North Wales Active Network Management Zone and a range of network demonstration and community energy partnerships.
•	Increase the use of electric vehicles and charging points.	Charging points were installed at 3 of our depots with a further 5 planned for next year. SPEN launched a 6 month trial of 5 electric fleet vehicles, initial feedback has been positive, and we hope the trial will pave the way for the introduction of a range of electric powered vehicles within the fleet.
•	Install oil containment around all new and high risk plant containing high volumes of oil.	In 2017/18 we carried out oil mitigation schemes at 23 of our sites
•	Exceed IEC international standards for SF6 switchgear by specifying a maximum leakage rate five times more stringent for 33kV and below and twice as stringent for higher voltages.	We have embedded this in our processes and systems for procurir and specifying equipment.
•	Reduce oil leaks by 50% through the replacement of poorly performing 132kV cable in SPM.	The amount of fluid leaked from our fluid filled cables has reduced by 52% in 2017/18 in comparison to 2016/17 figures. This is a dire result of our ongoing policy of strategic leak repair management and targeted asset replacement of oil-filled cables.
•	Engage on the environmental impacts of our developments from a very early stage.	We have a dedicated Environment and Planning team who engage with our engineers and legal teams in our developments early stages as a standard business process.
•	Utilise low carbon alternatives to travel, through the use of technology and smarter ways of working.	In 2017/18 our domestic air travel has reduced by 26% and staff business miles claims have reduced by 10%. The change is a combined result of travelling less, competitive rail pricing and increased staff awareness of carbon emissions from travel.



# **Appendix A:** Safety

Health and safety goes right to the heart of all our operations, it cannot be achieved successfully unless it is fully integrated with all other aspects of day-to-day business management.

	Commitment	Jointly across SPD and SPM this year
	Lead the industry for public safety.	Zero Improvement Notices, Prohibition Notices or Prosecutions.
•	Maintain a positive relationship with the Health and Safety Executive (HSE) through positive engagement.	A range of discussions held with the HSE on a number of network related topics including HSE Priority Interventions with all Distribution Network Operators, managing public safety and metal theft.
•	Lead an effective risk based public safety programme.	Wide range of initiatives including demonstrations and stalls at numerous agricultural shows including the Royal Highland Show, Anglesey Show and Royal Cheshire Show, support of safety education centres, Crucial Crew events, supporting development of ENA agricultural safety film and PowerWise.
•	Safeguard residents of flats and tenement buildings by continuing our major investment programme to modernise service positions and cables.	SPEN spent £12.5m modernising the electricity supply to residents of flats and tenement buildings in 2017/18.
•	Eradicate all low overhead line clearances across roads by April 2015 and continue to enhance public safety by upgrading all of our overhead line clearances to the latest industry technical standards by 2020.	SPEN spent £17.1 m on OH Clearances in 2017/18.
•	Increase the rate at which we modernise our substations by over 20%, improving safety and security of supplies at a lower overall cost.	SPEN replaced 1059 items in High Voltage Substations in 2017/18.
•	Meet or improve upon our accident rate performance metrics defined within our internal continuous improvement Health and Safety operating plans.	Staff Lost Time Accident Rate improved from 0.25 to 0.18.
•	Conduct thorough incident investigations, learn lessons quickly and implement changes to make our business safer.	5 Panels of Inquiry were conducted in 2017/18
•	Help our contracting teams to reduce their accident rate.	The Contractor Lost Time Accident Rate rose from 0.49 to 0.58 but remained within target.
•	Put the 'Health' into Health and Safety – our employees will benefit from a risk based occupational health monitoring programme.	c1200 Employees require Health Surveillance monitoring on a biennial programme with 545 employees screened in 2017/18.
•	We will safeguard our staff, members of the public and minimise disruption to supplies by implementing additional security measures to reduce the impact of interference and metal theft at our high-risk substations.	Substation security continues to improve with the fitting of new encoded padlocks.



# **SP Distribution and SP Manweb**Annual Performance Report 2017/18

# Appendix B

Our business

# Appendix B: Our biggest assets are our people

Develop and train our staff for a 'smarter' future and replenish our ageing workforce from the communities that we serve so that the investment that we make in recruitment and training continues to deliver in the long-term.

We have moved forward with our plans to develop our internal team members and new recruits to the business. We recruited our traditional programmes of Apprenticeships and Graduates complemented by our Adult Apprenticeship for candidates that have joined the business with enhanced skills and maturity. In addition, we have recruited Power Engineering Apprentices to increase the Engineering capability across the business.

For our internal teams we have delivered a new wave of Engineering Trainees for our Industrial Staff Trainee programme which will upskill our Industrial Team Members to Operational Engineers within the business. The combination of these programmes has seen the business spend over 95,000 hours of Technical Training in our Technical Training Centres at Hoylake and Cumbernauld.

### **Industrial Trainees**

We delivered against our plans to continue to grow our own talent and develop our teams from grass roots. To achieve this we recruited 24 Apprentices and 12 Trainee Craftspersons to complement our industrial trainee talent pool. We are developing this team to reach multi craftsperson level across all three trade types of Fitting, Jointing and Overhead lines.

## **Engineering Skills**

We provide a consistent level of support in this area. We have attended 29 High Schools, 14 Universities, 7 Colleges and 19 Community, Volunteering and Primary School events, both locally & regionally. We have piloted our new Bright Futures scheme, giving a week's work experience to pupils from areas with second and third generation unemployment. By supporting these organisations we are positively promoting our business, supporting the communities we serve and are providing opportunities for our trainees to develop their interpersonal skills, providing them with a more holistic training programme.





# **SP Distribution and SP Manweb**Annual Performance Report 2016/17

# Appendix C

Glossary

### **Areas of Outstanding Natural Beauty (AONB)**

Means protected landscapes in England, Wales and Northern Ireland as defined in the National Parks and Access to the Countryside Act 1949 (and includes National Scenic Areas in Scotland, as comparable to AONBs). Ofgem provide DNOs with an allowance for undergrounding overhead lines in these areas.

# Customer Satisfaction Broader Measure of Customer Satisfaction (BMCS)

This is an industry-wide survey of the views of our customers on our levels of service. It covers customer satisfaction, social obligations, complaint handling and how we engage with our stakeholders. It both rewards and penalises performance against the targets.

### **Customers Interrupted (CI)**

The number of customers in every 100, whose supplies have been interrupted per year over all incidents, where an interruption of supply lasts for three minutes or longer, excluding re-interruptions to the supply of customers previously interrupted during the same incident.

### **Customer Minutes Lost (CML)**

The duration of interruptions to supply per year – average customer minutes lost per customer per year, where an interruption of supply to customer(s) lasts for three minutes or longer.

### Distributed Generation (DG)

Generation connected to the distribution network, such as wind turbines, domestic solar panels, photovoltaic farms, hydroelectric power and biomass generators.

## **Distribution Network Operators (DNOs)**

DNOs are the organisations that look after the networks transporting electricity to end users such as homes and businesses. In England and Wales, DNOs manage the network from 132,000 down to 230 volts. In Scotland, DNOs manage the network from 33,000 volts to 230 volts. The UK distribution network is divided into 14 distribution areas and these are managed by 6 DNOs.

### Distribution System Operator (DSO)

The DSOs role will be to maintain system security and quality of service in distribution networks in order to serve network customers. The DSO will help with market facilitation, encourage transparent and non-discriminatory access, and ensure security of system and quality of service.

### ED1

ED1 (Electricity Distribution) price control set the outputs that the 14 electricity Distribution Network Operators (DNOs) need to deliver for their consumers and the associated revenues they are allowed to collect for the eight-year period from 1 April 2015 to 31 March 2023.

# Exceptional Event (Often referred to as a Severe Weather Event or Significant Event)

An event where the number of incidents caused by the event at distribution higher voltage in that period is equal to or greater than the commencement threshold number. In SPD the threshold is 76 and in SPM the threshold is 68. 'Distribution Higher Voltage' means any nominal voltage of more than 1,000 volts up to and including 132 kilovolts (except in Scotland, where it means any nominal voltage of more than 1,000 volts but less than 132 kilovolts).

### **Fluvial Flood**

Flooding that occurs as a result of flooding from rivers and watercourses.

## **Guaranteed Standards of Performance (GSOPs)**

These are the minimum levels of service to be met across a range of customer facing activities, including how we manage power cuts, connections and customer complaints. If we fail to provide the level of service required, we make a payment to the customer affected. There can be certain exemptions to these compensation payments, for example during extreme weather events.

## Health and Safety Executive (HSE)

The government body responsible for enforcing health and safety legislation.

## Incentive on Connections Engagement (ICE)

This is an incentive designed to encourage DNOs to improve the way they communicate with major connections customers.

## Interruption Incentive Scheme (IIS)

The Interruptions Incentive Scheme (IIS) sets targets for planned and unplanned electricity power cuts. Performance is measured by both number and duration of power cuts. The mechanism both rewards outperformance and penalises underperformance against the targets.

### Low-carbon Technology (LCT)

Technologies designed to reduce the amount of carbon we use, including electric vehicles, heat pumps, wind turbines and solar panels.

### **National Parks**

Means the areas that are designated as protected areas as defined in the National Parks and Access to the Countryside Act 1949.

### **National Scenic Areas**

Means the areas that are defined in the Town and Country Planning (Scotland) Act 1997 as being of outstanding scenic value in a national context.

## **Network Operating Costs**

Expenditure on operating and maintaining the network, e.g. fault repair, tree cutting, inspection and maintenance, engineering and business support costs.

### **Priority Service Register (PSR)**

Our register of vulnerable customers, enabling us to provide additional support when required. Stakeholder Engagement and Consumer Vulnerability (SECV) Incentive Drives network companies to engage with stakeholders and address consumer vulnerability issues. The SECV Incentive is designed to only reward network companies for high quality activities or outcomes that go beyond business as usual. Network company provide a submission to the regulator in relation to engagement activities carried out during the regulatory year in question. The regulator will assess this submission in three stages (internal assessments, panel assessment and an external consultant assessment for the consumer vulnerability).

### **Smart Meter**

Advanced gas and electricity metering technology that offers customers more information about, and control over, their energy use (such as providing information on total energy consumption in terms of value, not only volume), and/or allows automated and remote measurement.

### Time to Connect and Time to Ouote

This new incentive will measure the time taken from initial application received to the issue of a quotation and the time taken from quotation acceptance to connection completion. The incentive will capture minor connections customers. No exemptions apply.

The Time to Quote targets are 8.21 working days for a single property and 11.73 working days for multiple properties.

The Time to Connect targets are 42.08 for a single property and 52.70 working days for multiple properties.

### **Unrestricted Domestic Tariff**

The estimated annual cost of distribution to the typical domestic customer under the Common Distribution Charging Methodology, assuming a certain level of consumption for the chosen customer category and the total allowed income that is being targeted (reflecting previous under/over recoveries and various incentives).

