

SP Energy Networks

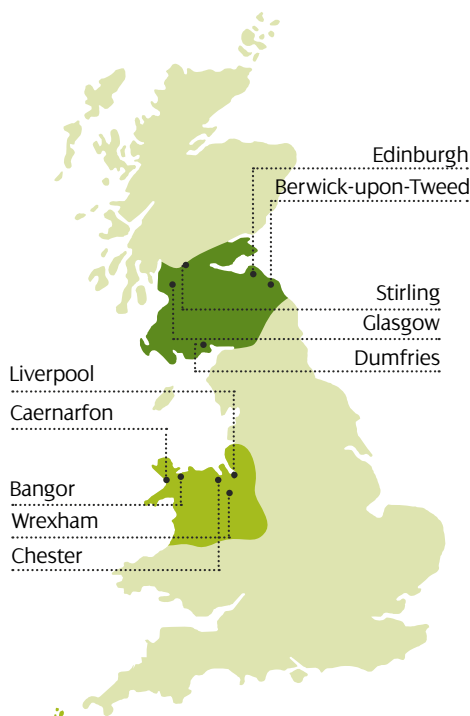
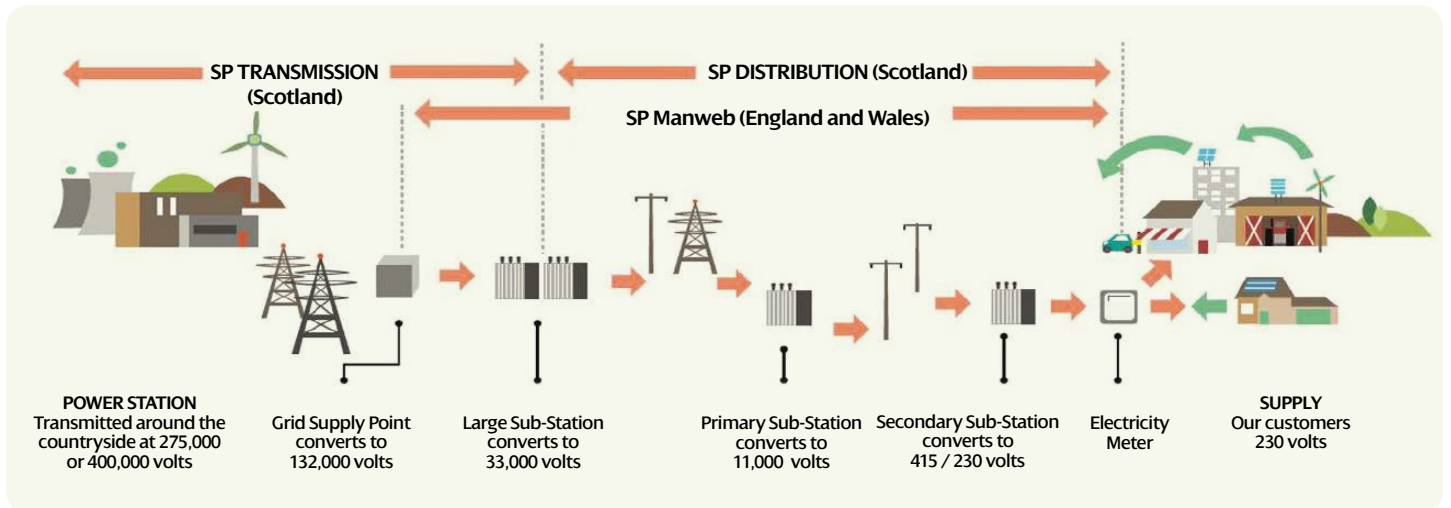
Distribution Annual Report 2016/17



**SP ENERGY
NETWORKS**

Our Business

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



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 2016/17.

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 c.30,000 substations (1 for every 100 customers), 38,680 km of overhead lines and 66,571 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.

SP Manweb
1.5 million customers

SP Distribution
2 million customers

Welcome

Foreword from Frank Mitchell, CEO

Welcome to our second Distribution Annual Performance Report. It gives all our stakeholders a clear and comprehensive view of how we are tracking against the commitments we made in our Business Plan to 2023.

We are proud to be a networks licence holder in an economic regulatory regime that is, in our view, one of the most advanced and sophisticated in the world. We never take for granted the privilege that it is to fulfil an essential public service. We strive to serve our customers and provide exceptional value for money whilst earning a fair return on the very substantial capital that needs to be deployed in the business. As can be seen from our results in this report, we are meeting if not exceeding most of our regulatory targets and will continue to strive to make improvements year on year.

We continue to improve network reliability and the levels of customer satisfaction while at the same time we continue to reduce our distribution charges. Overall, we believe that we provide very good value, keeping the lights on, at a fair price of between 26p and 30p per day.



Frank Mitchell
CEO of SP Energy Networks

This report shows how our business has performed during 2016/17.

Snapshots

Performance snapshot: SP Distribution	Pg 04
Performance snapshot: SP Manweb	Pg 05

2016/17 Outputs

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

Reliability and availability	Pg 07
Keeping the light on. Outputs on the number and duration of power cuts.	
Safety	Pg 08
Protecting the public and the people who work on our network.	
Customer satisfaction	Pg 09
Keeping our customer well-informed, and responding quickly and efficiently to queries.	
Stakeholder engagement	Pg 10
How we are working with our stakeholders, and involving them in our decision-making.	
Social obligations	Pg 11
How we are providing additional help and support for vulnerable customers in our communities.	
Connecting to our network	Pg 12
Meeting the needs of households, businesses and generators who want to connect to our networks.	
Innovation and future networks	Pg 13
How we harness technological and commercial innovation to reduce costs and improve service.	
Environment	Pg 14
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 2016/17.

Appendices

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

Substantially ahead of 2016/17 target

On 2016/17 target

Partially or marginally below 2016/17 target

Substantially below 2016/17 target

SPD performance snapshot 2016/17

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 £58m. We have also been actively developing our strategy to become a Distribution System Operator, an energy industry initiative that will transform the way our energy networks work.

Safety

We complied with Health and Safety Executive legislation and exceeded our Occupational Health monitoring rate by 23%.

Environmental

We installed 878 Low Carbon Technologies (equivalent to 439MW) and reduced our CO2 emissions on Buildings Energy use, Operational vehicle use and Business travel by 8%.

Our network spans over once
round the globe

Network	Actual
Number of customers	2,004,462
Total network length	58,304
Reliability and Availability	Actual 2016/17
Customer interruptions* (Recorded per 100 customers in 2016/17)	42.9
Customer minutes lost (Average number of minutes our customers had their supply interrupted)	29.3
Customer Satisfaction	Actual 2016/17
Customer satisfaction survey score out of 10	8.72
Connections	Actual 2016/17
Time to quote	4.9 days
Time to connect	51.1 days
Incentive on Connections Engagement (ICE)	No penalty
Stakeholder Engagement and Social Obligations	Actual 2016/17
Stakeholder Engagement and Consumer Vulnerability score	6.28
Financials	Actual 2016/17 (2012/13 prices)
Unrestricted Domestic Tariff Charge for a typical domestic customer	£87.69
Total expenditure	£196.2m
Percentage of allowed expenditure	98%

Exceeding our Regulatory target of
51.9 by **17%**

Exceeding our Regulatory target of
45.7 by **36%**

6% This is 6% better than the Regulatory target of 8.2 which is based on industry top performance.

Our aim is to reduce how long it takes to provide a connection offer and the time it takes to make it all happen. This year we took on average less than 5 days to turnaround our connection quotations.

Our positive score reflects the activities 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 domestic broadband services.

*There were no exceptional events in SPD during 2016/17

SPM performance snapshot 2016/17

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



Innovation

We have been actively pursuing innovation opportunities submitting Network Innovation Competition (NIC) and Innovation Roll-out Mechanism (IRM) bids totalling £58m. We have also been actively developing our strategy to become a Distribution System Operator, an energy industry initiative that will transform the way our energy networks work.

Safety

We complied with Health and Safety Executive legislation and exceeded our Occupational Health monitoring rate by 23%.

Environmental

We installed 8,566 Low Carbon Technologies and in SPM (equivalent to 98MW) and reduced our CO2 emissions on Buildings Energy use, Operational vehicle use and Business travel by 8%.



Network	Actual	
Number of Customers	1,508,672	Not all electricity networks are the same. Large parts of the SPM network are configured as an interconnected mesh whereas other distribution networks are mainly radial.
Total Network Length	46,947	
Reliability and Availability	Actual 2016/17	
Customer interruptions* (Recorded per 100 customers in 2016/17)	38.2	In February SPM's area was the worst hit in the UK by Storm Doris where wind gusts reached 94mph. However of 68,008 customers affected, 96% were restored within 24 hours.
Customer minutes lost (Average number of minutes our customers had their supply interrupted)	37.3	
Customer Satisfaction	Actual 2016/17	
Customer Satisfaction Survey Score out of 10	8.78	7% This is 7% better than the regulatory target of 8.2 which is based on industry top performance.
Connections	Actual 2016/17	
Time to Quote	5.3 days	Our aim is to reduce how long it takes to provide a connection offer and the time it takes to make it all happen. This year we took on average less than 6 days to turnaround our connection quotations.
Time to Connect	45.3 days	
Incentive on Connections Engagement (ICE)	No penalty	
Stakeholder Engagement and Social Obligations		
Stakeholder Engagement and Consumer Vulnerability Score	6.28	Our positive score reflects the activities we do and relationships we have with a wide variety of stakeholders.
Financials	Actual 2016/17 (2012/13 prices)	
Unrestricted Domestic Tariff Charge for a typical domestic customer	£100.07	Our daily charges are considerably cheaper than a second class postage stamp, a TV Licence or typical domestic broadband services.
Total Expenditure	£236.9m	
Percentage of allowed expenditure	98%	

* includes exceptional events

2016/17 Outputs



2016/17 Outputs

Reliability and availability

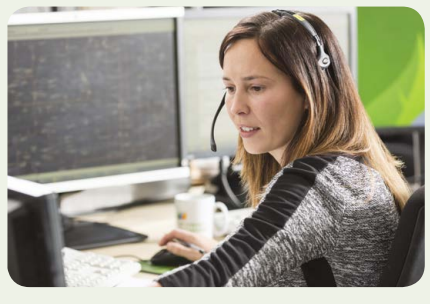
A reliable supply of electricity to homes and businesses is priority number one; a message that our stakeholders consistently endorse. This includes when the network is put under pressure by extreme weather events.

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

Examples of our performance in action

Storm Doris
 'Storm Doris' impacted 68,008 of SP Manweb's customers. 96% 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 1,600 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. 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 63% was delivered by March 2017.

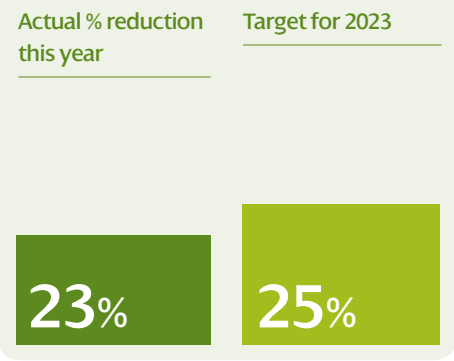
Fewer and shorter power cuts

By 2023 we aim to have reduced the average amount of time our customers are off supply by 25%, by reducing interruptions by 7% and the duration of interruptions by 16%. By reducing average time off supply by 23% 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



Reductions in the average time our customers are off supply



2016/17 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

SPEN PowerWise Champion - Broadgreen Primary School



Royal Highlight show demonstration



Compliance

We can only be leaders in Health and Safety if we comply fully and demonstrably with relevant laws and regulations. In 2016/17 we continued our constructive engagement with the Health and Safety Executive, and were not subject to any prosecutions.

Public education

Through our support of electrical safety at two safety education centres, we delivered clear, useful information on electrical safety to c138,000+ individuals of which c43,000 pupils attended 'Crucial Crew' events. We attended regional agricultural shows, which attracted c100,000 visitors. We continue our support of the Welsh Rugby Union, the Glasgow Warriors, and Rygbi Goglrdd Cymru (RGC) rugby team who have also assisted in our engagement with local communities.

Making our networks safer

In 2016/17, we repositioned services and cables in older flats and tenement buildings to make them safer as part of our ongoing programme. We have also completed 11% of our ED1 programme to eradicate all low overhead line clearances across roads.

Keeping our staff and contractors safe

In 2016/17, 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. We also hit our targets for taking remedial and preventative action quickly, where a need is identified.

Substation security: protecting people from themselves

This year we targeted and implemented heightened security at various substations, which we identified 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](#)
- [Metal theft](#)
- [Safety documents](#)

★ Substantially ahead of 2016/17 target

● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 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 81% of all complaints within 1 day and exceeding customer satisfaction targets.

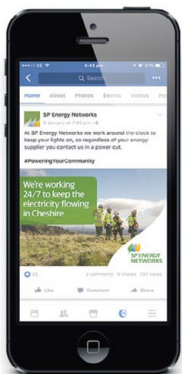
Examples of our performance in action

Raising customer awareness:

Our innovative approach to customer engagement has proven successful in achieving our goals. Market research identified an increased visibility of the brand which has risen from 49% to 58%.

Using social media:

Our social media analytics show a 63% increase in Facebook likes and 29% increase in Twitter followers. We issued 7,886 proactive tweets in 2016/17.



Customer satisfaction

Our vision for 2023 is to achieve a score of 9.4 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 8.72 in SPD and 8.78 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 9.4.



Responding and communicating

Our customers need to know that they can pick up the phone and talk to us. We received 774,000 calls this year – of which 575,000 related to power cuts. Our average time to answer the 575,000 calls was 8.1 seconds with only 0.94% of calls being abandoned. Storm Doris added 33,000 more calls in a 2 day period and increased our average time to answer calls to 17 seconds.



Complaint handling

Our customers also need to trust us to handle any complaints properly. We handled 6,667 complaints, and met our target to resolve 95% within 31 days and 81% of complaints within 1 day. We received zero 'repeat' complaints, and none of the seven 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](#)



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● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 Outputs

Stakeholder engagement

The aim of our stakeholder engagement is simple: to understand what our stakeholders need and to deliver it in a sustainable way. Throughout our entire business, we've never been closer to our stakeholders than we are right now.

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

Over 120 partnerships collaborating to deliver safety, priority services and awareness messages to hard-to-reach and future stakeholders

5 of our most important strategies and policies revised in response to stakeholder engagement

First DNO to consult on its vision for transition to system operator and the market reform necessary to make this a reality

Wide ranging positive impacts

We always engage with the aim of delivering positive impact for our stakeholders, whether in terms of reduced costs or timescales, or improved societal or environment outcomes. Positive impacts as a result of effective engagement this year include; a reduction in instances of farm machinery hitting power lines as a result of our partnership with the Scottish Association of Young Farmers; the release of 3MW of previously untapped capacity in Liverpool through collaborative energy planning; and increased customer satisfaction through better engagement before and during planned power outages.

Broad and inclusive engagement

Our core engagement programme ensures appropriate channels are used to engage with a broad range of stakeholders with focus on engaging 'hard to reach' and challenging groups. In response to stakeholder feedback, we added new subgroups and working groups and a new innovative online community to encourage ongoing discussion.

Better management

This year, we became the first network operator to fully embed an end-to-end engagement management system into our business. This ensures every aspect of engagement planning, delivery, tracking and reporting is more efficient, joined-up, and is entirely evidence-based, carrying out tailored engagement with confidence.

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 6.28/10.

Further background

- [Stakeholder events](#)
- [Stakeholder reports](#)
- [Stakeholder registration](#)
- [Join our online community](#)

"They are very progressive and do listen to stakeholders and customers. They go out of their way to ensure they give good customer service."

Distribution Stakeholder Survey 2017



Our safety presentation to the Rural and Agricultural conference has reached 3500 young farmers and 80 regional clubs in Scotland.

★ Substantially ahead of 2016/17 target

● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 Outputs

Social obligations

Electricity is an essential service for all. But some individuals and communities require more active support from us in our role as a Distribution Network Operator. In this capacity, we work in partnership with agencies, charities and community organisations.

Exceeding targets in most areas, and continuing a trend of strong, sustained improvement, resolving 81% of all complaints within 1 day and exceeding customer satisfaction targets.

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

- Over 130 partners delivered 10 free support services for customers in every area
- £116k value of benefits delivered for customers
- Average saving per customer is £381
- Winners of the Utility Week Award for our Support Services

Improving the services provided for vulnerable customers

The range and diversity of actions we are taking to better address customer vulnerability is illustrated below, all delivered this year:

Power down: How we support vulnerable customers on our Priority Service Register (PSR)

Welcome pack: Sent to new PSR Customers so they know what to expect from us and tell them about our services.

Proactive and ongoing contact: Updating customers at least every 3 hours in a power cut.

Customer service on site: Our nominated person on site process means that there is always someone to support customers.

2 Year information check: To confirm customer data and tell them about our services.

Vulnerable pack: Issued during power cuts and storms. Includes an analogue phone.

Hot food and hotels: Provided for customers in prolonged outages and significant events. We extend this to all customers after 48 hours.

Dedicated number: Our calls are answered in an average of 8 seconds. In storms and significant events we have a dedicated welfare line for PSR customers.

Resilience partners: Providing additional services such as social care support, opening community buildings, catering vans and emotional support.

Our Priority Services Register (PSR) for vulnerable customers

Our strategy is to understand our customer base and get the right support to our customers. We use data mapping to identify priority areas, and aim to capture and reach customers through targeted awareness, using our network of partners and through our business as usual processes. We support customers on our PSR during power interruptions and seek our customers who are harder to reach through events and community partnerships to ensure everyone who needs help gets it. This year we have increased the number of PSR customers by 169,463. Almost 1 in 5 of our customer base (18%) is now registered on the PSR.

Working in collaboration with our communities

We operate a referral service for our vulnerable customers, working with local agencies that provide support services for our most vulnerable. We provide 10 support services in our scheme and services are provided free of charge to customers. We have engaged with local community partners to build a network of services to support customers, these have been identified through research with stakeholders and customers to inform us what customers need help with. We are using our position as a DNO to bring services together for customers to support them in their daily lives.

Grocery Service

"It's a marvellous idea. I feel confident now to go out as I don't have to struggle."

SPEN Customer (Anonymous)



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● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 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 have continued improvement on Time to Quote (TTQ) year on year and we have continued to ensure that our stakeholders are at the forefront of our work plans.



Improvements in Provision of Quotation

In 2016/17, we received 33,954 enquiries of which 2,084 were from generators. 23,739 quotations were issued.

In SPD, our average time to quote was 4.92 working days for single premises, and 6.31 days for multiple premises. The corresponding average time to connect was 51.11 days and 63.97 days, from accepted and payment.

In SPM, our average time to quote was 5.32 working days for single premises, and 6.84 days for multiple premises. The corresponding average time to connect was 45.26 days and 59.76 days, from accepted and payment.

'QUOTE +'

Customers can request up to 3 connection capacity options to be considered. If our generation customers choose to progress with 1 of the options proposed within 5 working days, we will maintain their place in the queue from the request date.



Our Connections Engagement Work Plan has been Endorsed by our stakeholders who have scored it 8.4 out of 10.

Examples of our performance in action

"Service has improved in recent years, of all the services we deal with SP Energy Networks are quickest with quotes and best communicators."

David Lorimar -
Asher Associates DG

"The SPEN work programme provides a clear and transparent improvement plan that will result in improvement information and clearer expectations for customers and stakeholders"

Peter Bulmer -
Cheshire and
Chester Council



Every month we ask our major connections customers how we're doing and publish the results on our website. Our 'Connections' customer journey graphic is also available online.

Customer service

96% of actions are included within our stakeholder driven connections strategy and recorded consistently strong levels of customer satisfaction through our monthly surveys. We've increased the number of customers surveyed each month from 30 to 60 and these surveys have shown a 15% improvement last year across both of our licence areas.

We've also been recognised by Ofgem as leading the way in providing flexible connections to customers. We'll continue striving to provide and expand our capability to provide an even better service.

Facilitating competition

We have continued to promote the benefits of the new Connections Code of Practice (COP) with Independent Connections Provider (ICPs)/ Distribution Network Operator (DNOs) and stakeholders, utilising various communication channels and holding workshops. We hold monthly district level meetings with Independent Connection Providers (ICP). We've also held workshops to reaffirm the COP process and promote its use.

Further background

- [Guaranteed standards of performance](#)
- [Charging methodology and statements](#)
- [Code of practice – promoting competition in the connections process](#)
- [Our Incentive on Connections Engagement Report- showing our connections work plans looking forward and back](#)

★ Substantially ahead of 2016/17 target

● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 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. Our transition to becoming a Distribution System Operator has begun in earnest. SP Energy Networks is a key part of the electricity supply chain and therefore has a role to play in the developments driven by the national low carbon agenda.

Low Carbon Network Funding

In response to Ofgem's 2017 Network Innovation Competition (NIC), we invited third parties, for the first time, to submit applications. In addition we submitted three Innovation Rollout Mechanism (IRM) submissions to apply innovative technologies to our network, reducing overall costs for our customers. These applications will address key current and future challenges for our network.

Angle-DC: A first in Europe

Last year we developed the cutting-edge ANGLE-DC innovation project that will demonstrate a novel network reinforcement technique. This will use existing 33kV Alternating Current (AC) assets operating with Direct Current (DC) which connect the Isle of Anglesey to mainland North Wales. This 4+ year project is well underway and a contract has been placed with GE Power Conversion for the supply of the main converter stations. Construction works are planned to commence later this year.

Engaging with industry

We were the main sponsor for the 2017 International Conference on Electricity Distribution. This is the leading forum where the global electricity distribution community meets and this year it was held in June at the Scottish Exhibition and Conference Centre in Glasgow. We presented a number of our projects and showcased how innovation is delivering customer service improvements and greater efficiency. We also communicated our vision for the evolution to a DSO.

At a recent NIC event, we presented our Phoenix project, an innovative potential solution to issues linked to system security and stability, to a wide range of stakeholders. This sparked debate about its commercial use.



Our 2 NIC BIDS, submitted to Ofgem in August 2017



Further background

- [ANGLE DC Project](#)
- [Network innovation allowance report](#)
- [Innovation strategy](#)

★ Substantially ahead of 2016/17 target

● On 2016/17 target

● Partially or marginally below 2016/17 target

● Substantially below 2016/17 target

2016/17 Outputs Environment

We have a key role in enabling greater adoption of Low Carbon Technologies (LCT), such as Electric Vehicles and micro-generation. We also have an important role in managing down the environmental impacts of our own operations.

We are currently on target to achieve our goal to reduce the four key environmental impacts Business Carbon Footprint (BCF), Losses, oil leakage and visual amenity. We have committed to achieving these goals through capital investments, innovation activity and through amending our business as usual approach.



Facilitating Low Carbon Technologies

In 2016/17 we installed 1,830 Low Carbon Technologies (equivalent to 588MW). This includes the facilitation of Heat Pumps, Photovoltaics (PV) and Electric vehicles. PV has significantly diminished following the change in Feed in Tariffs (FIT). We continue to see a slow uptake in heat pumps since the change in government subsidy mechanisms.

Reducing electricity losses across our network

We installed lower loss transformers to reduce losses by 50% at more than 1,300 of our secondary substations, reducing the costs Energy Suppliers will include within customers' bills by £50-£60m over the lifetime of the assets.

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

We are targeting measures to reduce the visual impact of our network by 2023. This year in SPM we have completed undergrounding projects in Snowdonia National Park AONB 0.1km, Llyn Peninsula AONB 0.8km and two projects in Anglesey AONB each measuring 0.8km.

At the Newstead Roman Trmontium, 1.7km of OHL was recently undergrounded. This area, close to Melrose is not only a NSA and site of special scientific interest but is also considered to be one of the most important archaeological sites in Scotland, surrounded by stunning countryside enjoyed by locals and tourists.

Reducing oil and SF6 leakage on our network

We continue to target year on year reductions in oil and SF6 leakage in our equipment. In 2016/17 we completed 27 oil mitigation schemes. Typically oil containment projects are carried out as part of SPD and SPM's substation investment programme. The switchboard and transformers are installed in prefabricated housing on a new concrete plinth with impermeable bunds and sumps installed.

Our own carbon footprint

We are currently on target to achieve our goal for a 15% reduction in Carbon Dioxide (CO2) emissions (excluding network losses) by 2023. In 2016/17 we reduced our CO2 emissions on buildings energy use, operational vehicle use and business travel by 8%. We have continued to expand on the carbon data we receive from our contractors.

Further background

- [Environmental report](#)
- [Losses strategy - Reducing network energy losses and greenhouse gas emissions](#)



Image showing Newstead Roman Trmontium



Image showing work carried out on Overhead Lines near Melrose, National Scenic Areas



Substantially ahead of 2016/17 target



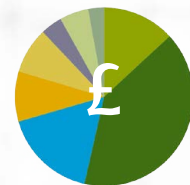
On 2016/17 target



Partially or marginally below 2016/17 target



Substantially below 2016/17 target



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

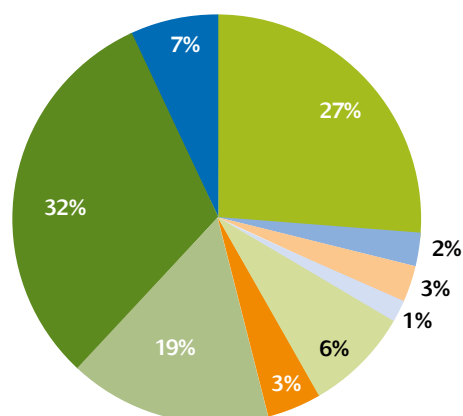
The amounts we are permitted to recover from our customers for using our network services during 2016/17. In total, and what it implies for our Unrestricted Domestic Tariff Charge:

	SPD (£m)	SPM (£m)
Total Allowed Revenue	392.7	342.3
	SPD (£)	SPM (£)
Unrestricted Domestic Tariff charge	87.69	100.07

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 corporate support Activities	64.5	72.6
Asset Replacement and Refurbishment	51.1	66.1
Network operating costs	36.7	46.2
Rising lateral mains	7.9	3.4
ESQCR low ground clearances	5.6	7.0
General reinforcement	5.2	19.5
Non operational capex	6.9	6.8
Connections	4.3	-0.7
Others	14.0	16.0
Total (£m)	196.2	236.9



Total Expenditure across SPEN (SPD and SPM) (2012/13 prices)

● Engineering and corporate support activities	32%
● Asset replacement and refurbishment	27%
● Network operating costs	19%
● Other	7%
● General reinforcement	6%
● Non operational capex	3%
● Rising lateral mains	2%
● ESQCR (low ground clearances)	3%
● Connections	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 2016/17, we earned a £20.45m 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	+10.07	+2.59
Customer satisfaction	+1.80	+2.50
Penalty-only schemes		
Incentive on Connections engagement	0	0
Reward-only schemes		
Stakeholder engagement incentive	+0.73	+0.78
Customer vulnerability incentive		
Time-to-connect incentive	+0.60	+0.60
Losses discretionary reward	+0.39	+0.39
	+13.59	+6.86
Total licensees combined (£m)		+20.45



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

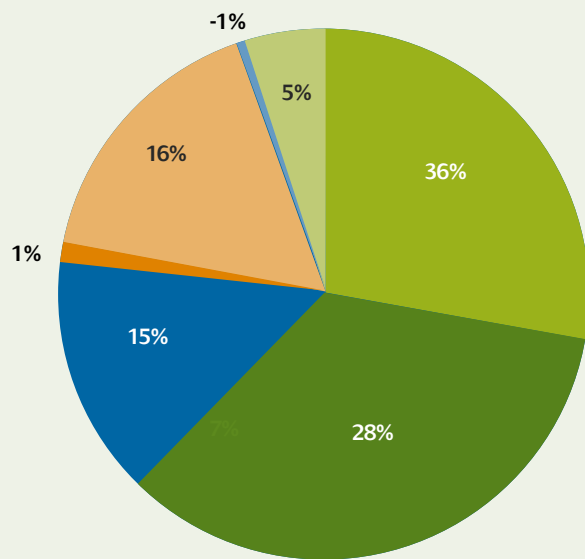
Bill impact

The key facts about the make up of distribution network costs which represent around 18% of customers annual domestic electricity bill in 2016/17.

Breakdown of an average electricity bill 2016/17

Source: Ofgem

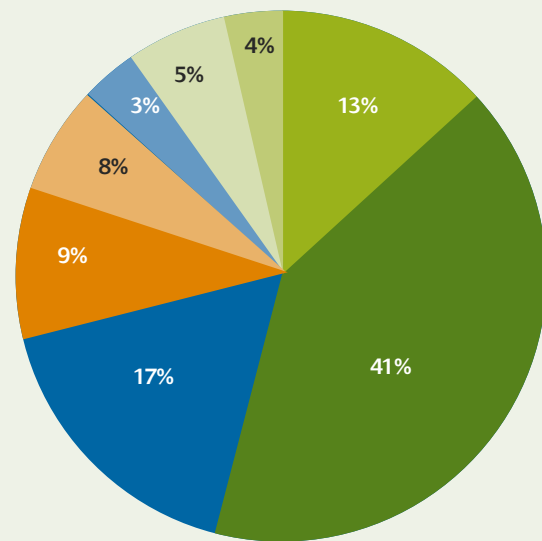
Electricity bill make up
(SPD and SPM Combined 2016/17)



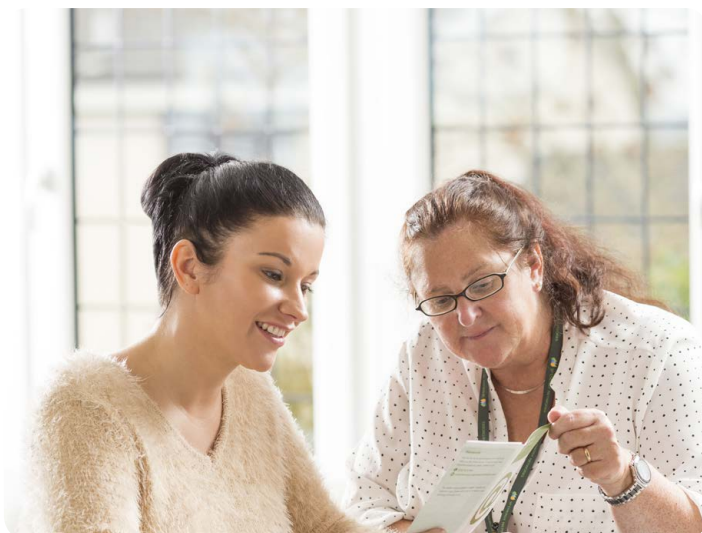
● Wholesale costs	36%
● Network costs	28%
● Environmental and social obligations	15%
● Other direct costs	1%
● Operating costs	16%
● Supplier pre-tax margin	-1%
● VAT	5%

Further Split: Distribution Costs 2016/17 Make up of the above 18%

Distribution component of electricity bill
(SPD and SPM Combined 2016/17)



● Cost of maintaining the network	13%
● Future proofing our network	41%
● Financing	17%
● Business Rates	9%
● Legacy Pensions	8%
● Regulatory Incentives	3%
● Transmission Charges	5%
● Other	4%



Looking forward



Looking forward

Smart meters

50 million

By 2020 energy supply companies will have installed over 50 million smart gas and electricity meters across GB.

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

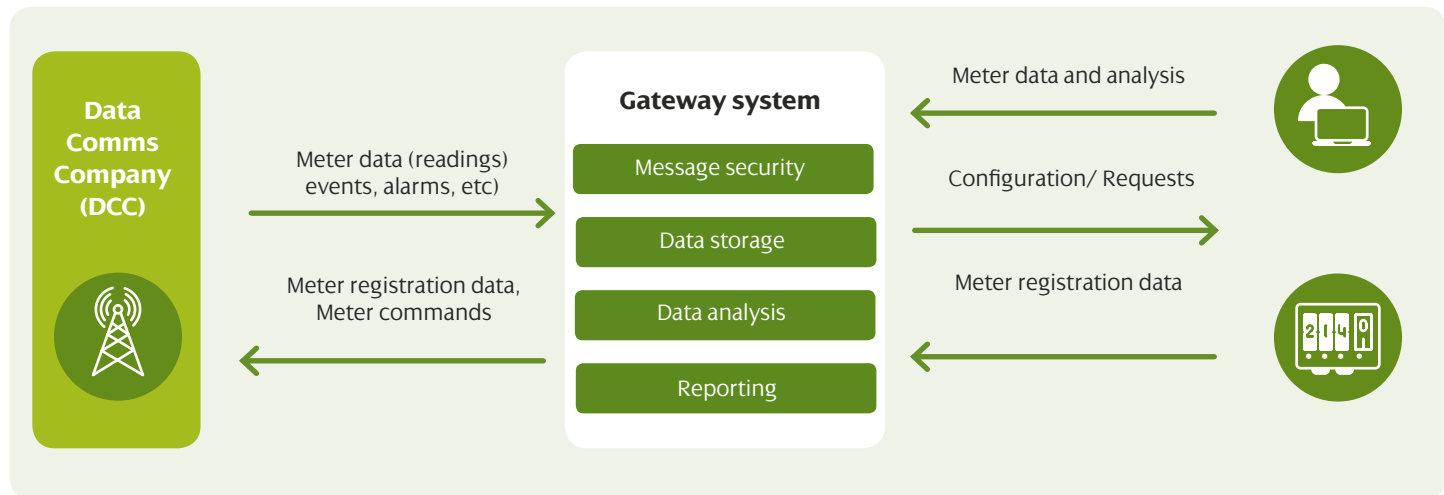
The industry forecasted that in 2% of properties this would be a requirement. In fact, almost 5% of attempted Smart Metering installations in our SPM area require an intervention, and almost 10% in SPD.

As the deployment of Smart Metering ramps up we have updated our plans to ensure we have the resource levels we require to deal with this challenge.

Once Smart Meters have been installed in a property, some of the data they can record will be useful to DNOs. The Government and Ofgem expect DNOs to use this data in future to create benefits for customers. Looking ahead, we will have much more detailed information about the end points of our network. This will better inform the design of network upgrades as we respond to the uptake of low carbon technologies.

In order to access this data it is necessary for us to build new IT systems to connect to the centralised industry system created by the Data Communications Company (DCC). In early 2016, we placed a contract with Siemens for our 'gateway' to the DCC. The gateway will allow us to securely access and manage Smart Meter data. In addition, it will allow us to provide meter registration data to the DCC to enable the supplier switching process.

Intervention volumes 16-17



Looking forward

External affairs

Brexit: Leaving the European Union

The UK is now entering a period of uncertainty which we can see evidenced by the volatility in our financial markets. Despite this, our business remains a cornerstone of the economy and we provide an essential service of national importance. Our parent company Iberdrola remains fully committed to our customers and investing in our Business. We have a critical role to keep the lights on and to connect customers to our grid. What we do is crucial for the UK economy.

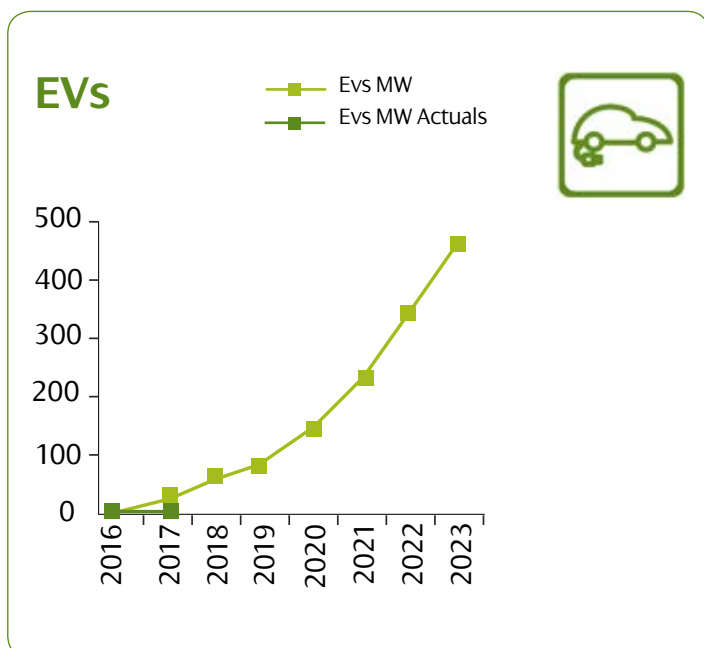
We have financially felt the impacts of BREXIT as the costs of key equipment such as transformers has increased. We will continue to monitor these impacts.

We will continue our focus on driving our SP Energy Networks business forward and to ensure we all remain focused on the fundamentals of our business: customer service, health and safety, efficiency and innovation.

Electric vehicle rollout

Recent years have seen significant reductions in the CO2 emissions associated with the energy sector, however to meet the UK's CO2 emission reduction targets the focus must also turn to transport and heating. This year both the UK Government and the Scottish Government have outlined plans to ban the purchase of new diesel or petrol vehicles post 2040 and 2032 respectively.

To facilitate the wide scale rollout of electric vehicles, it is key that we prepare the UK's electricity networks to provide a suitable charging infrastructure for our customers and that we do so at the lowest overall cost. We will be actively engaging with both central and devolved Governments to understand their aspirations and with industry and suppliers to understand the capabilities of EV products. Most importantly, we will engage with customers to understand how they will use electric vehicles. This will allow us to understand the potential impact on our electrical networks and to take appropriate action, including lobbying government and our regulator Ofgem for adequate funding to invest in the network that the UK needs to realise its low carbon transport aspirations.



Looking forward

Demand growth and low carbon technology

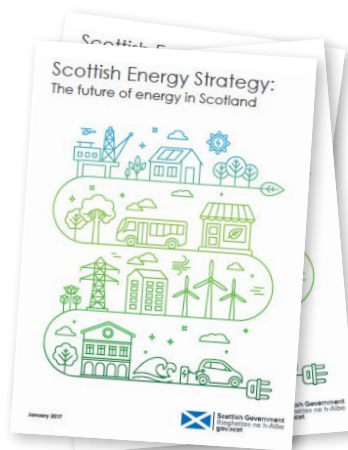
An evolving environment based in response to climate change

As the UK builds towards a low carbon future, the nature of the electricity grid is changing. We no longer rely solely on centralised energy generation supplying all of our demand customers. We are experiencing increasing volumes of Distributed Generation and Distributed Energy Resources, Smart Meters being installed in our customers' homes and the adoption of electric vehicles. As network operators, we need to adapt to meet these challenges whilst maintaining low cost, reliable energy distribution for our customers.

It is our view that Ofgem should formally recognise the Low Carbon ambitions of the UK's devolved Governments. Formalised agreements should be made between Ofgem, the UK Government and the devolved Governments on RII0-2 investment plans.

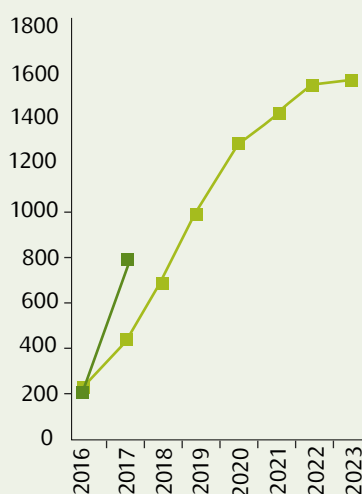
In January 2017, the Scottish Government consulted on its Draft Energy Strategy, it sets a new 2030 'all-energy' target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources. The Scottish Government also proposes to set a challenge to the renewables industry to make Scotland the first area in the UK to host commercial onshore wind development without subsidy.

Price controls are fundamental to the delivery of the long term UK, Scottish and Welsh Government energy policy and low carbon ambitions. In order to do this it will be necessary to look beyond single price control periods to ensure that we are prepared for a low carbon future.



DG

■ DG MW Forecast
■ DG MW Actuals



300%

The MW capacity of Distributed Generation Connecting to our Network is due to increase by at least 300% over the next 6 years

50%

50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources.

- The Scottish Government's Draft Energy Strategy

Looking forward

The distribution system operator

Open networks

Launched in January 2017, the Open Networks Project will lay the foundations of a smart energy grid in the UK. The Project brings together the UK energy industry to transform the way our networks work - all 8 of the UK's electricity network operators (including National Grid as the System Operator), the Department for Business, Energy and Industrial Strategy (BEIS) and the energy regulator Ofgem, as well as leading academics, trade associations and NGOs.

The project will enable the UK's energy networks to move from our traditional role of delivering electricity in one direction from centralised power plants to our homes and communities, to one where we act as a smart platform. This will enable a whole range of new energy technologies that generate, consume and manage electricity. Local networks in particular will become more active managers of supply and demand within their area, which will require new services and interactions with the wider network. BEIS and Ofgem recognise the Open Networks project as a key tool to define and develop the roles and responsibilities of future Distribution Network Operators (DSOs).



The objectives of the Open Networks Project for the first phase of work in 2017/18 are to:

- Develop improved transmission and distribution network interface processes around connections, planning, and develop shared Transmission System Operator/Distribution System Operator services and operation.
- Assess the gaps between the experience our customers currently receive and what they would expect, and identify any further changes to close the gaps within the context of a 'level playing field' and common transmission and distribution approach.
- Develop a more detailed view of the required transition from DNO to DSO including the impacts on existing organisation capability and the key industry developments required to transition.
- Address tariff design inconsistencies between transmission and distribution customers, seeking a level playing field and to consider the tariff implications of future TSO/DSO models.

As a result of these objectives, the ENA and its members have created five workstreams under the project: T-D Process, Customer Experience, DSO Transition, Charging and Communications (across all groups to develop external material and engagement). Each of these workstreams will have a range of outputs to produce that will be undertaken by subject matter experts. The project is also informed by an external advisory panel comprising key partners including industry trade associations, community groups and customer groups (e.g. Citizens Advice). A more detailed overview of the project can be found [here](#).

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
Ochil House
Hamilton International Park
Blantyre G72 0HT

Cheshire, Merseyside, N. Wales and N.Shropshire

Customer Service
SP Energy Networks
PO Box 168
Prenton CH26 9AY

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

**POWER CUT?
CALL 105**

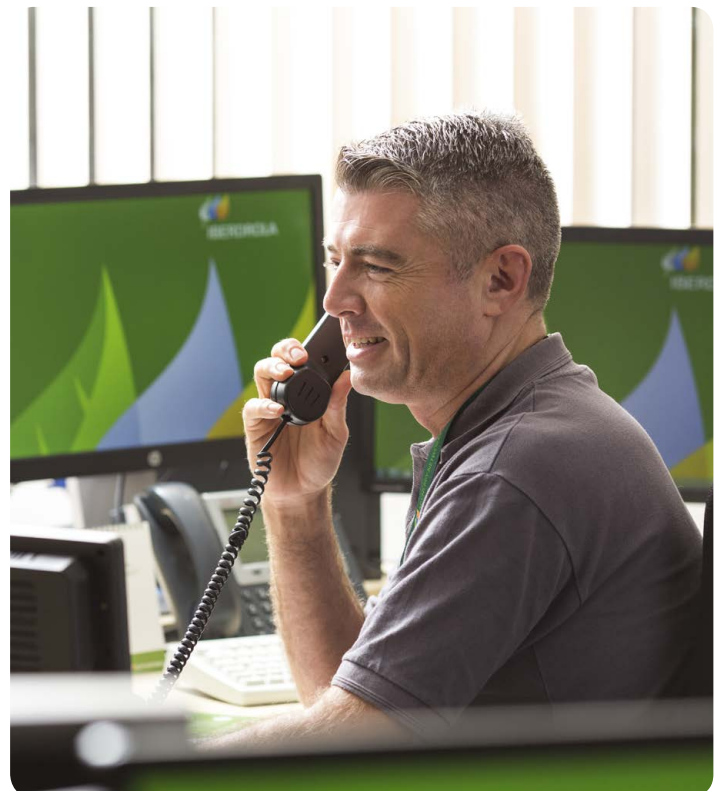
You can still reach us on our existing numbers:

Central and Southern
Scotland

0800 092 9290

Cheshire, Merseyside,
N. Wales and N.Shropshire

0800 001 5400





**SP ENERGY
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