

# UK Power Networks

RIIO-ED1 Business Plan Commitment Report 2015/16



UK  
Power  
Networks   
Delivering your electricity

# Our vision

To be the **best performing**

distribution network operator in the UK by 2018/19

We will achieve this by demonstrating industry leadership in three key areas.

An employer of choice

- > The safest – with an exemplary safety record
- > A place where people love to come to work

A respected corporate citizen

- > The most reliable networks
- > The most satisfied customers
- > The most innovative
- > Deliver on our commitments

Sustainably cost-efficient

- > Be the lowest cost electricity distributor

# Our values

The **DNA** of our business

Our values communicate the behaviour we expect of our staff and our contractors. They form the basis of the way we do business.



## Integrity

We will do what we say we will do and build trust and confidence by being honest to ourselves, our colleagues, our partners and our customers.

## Continuous improvement

We are committed to learning, development, innovation and achievement.

## Diversity and inclusiveness

We recognise and encourage the value which difference and constructive challenge can bring.

## Respect

We treat our colleagues and our customers the way in which we would want to be treated.

## Responsibility

We always act in an ethical, safe and socially/environmentally aware manner.

## Unity

We are stronger together and this comes from a shared vision, a common purpose, and supportive and collaborative working.

# Chief Executive's introduction

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The year from April 2015 to March 2016 was one of great achievement for UK Power Networks. This report summarises how our business has performed in the first year of the price control period.

The price control period, known as RII0-ED1, is set over eight years by our regulator, the Office of Gas and Electricity Markets (Ofgem). As part of our commitment to stakeholders, we recognise the importance of reporting on the progress of the 77 commitments that we made as part of our business plan. I am delighted to report that our efforts continue to gain momentum and we can report significant progress under each output category.

Our stakeholders are hugely important to us. We work hard to understand their needs. Through listening, understanding and then acting, we have a better appreciation of our customers' needs and can improve the effectiveness of the services we provide. As a result, our customer satisfaction rating reached an all-time high.

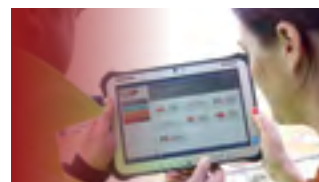
As well as providing the best service possible, keeping the public and our employees safe is a key focus. This applies whether we are responding to a power cut or improving the network.

By keeping a laser-like focus on safety, this year we had the lowest number of incidents that led to an employee needing time off work as a result of an injury.

Delivering a safe and reliable network is vital to what we do. This year we delivered our best ever performance in terms of network reliability. We recognise, however, that delivering the greatest value for money is a pressing concern for our customers. To meet this concern, we have made great strides this year in improving our efficiency by forming alliances and modernising our workforce.

This annual report sets out our progress on each of our six output areas and it looks forward to the exciting future of electricity networks.

**Basil Scarsella**  
Chief Executive



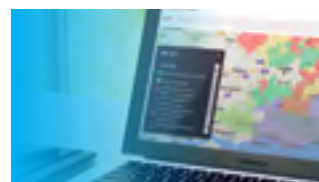
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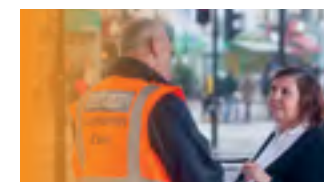
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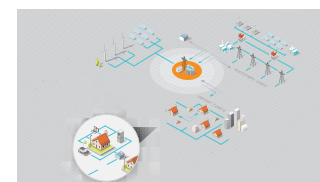
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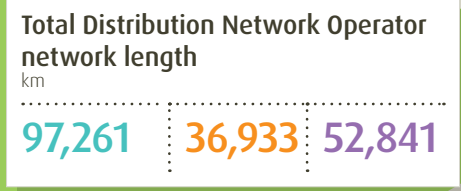
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# Performance snapshot

General & financial indicators  
(data from the RIGs sheet SI1)

**Key**  
Our three regulated networks are:

- Eastern Power Networks
- London Power Networks
- South Eastern Power Networks



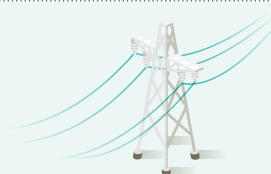
<b>Total expenditure</b> £m (2012/13 prices)
<b>Total expenditure as a percentage of allowed revenue</b> %
<b>Unrestricted domestic tariff charge</b> (not including domestic customer rebate) £ (2012/13 prices)

**Eastern Power Networks**

264.9

80

72.0

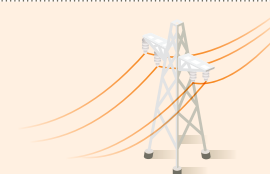


**London Power Networks**

178.3

72

62.0




**South Eastern Power Networks**

163.1

73

81.2

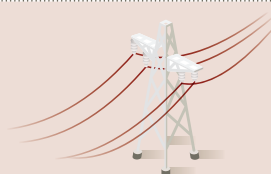


**UK Power Networks**

606.3

75

71.3

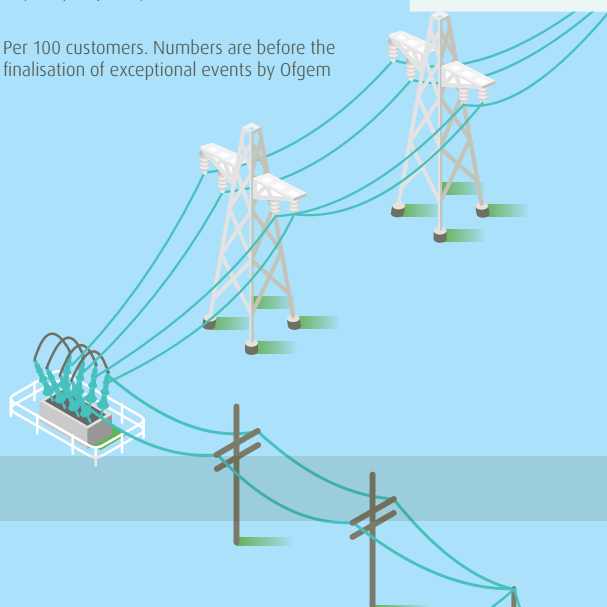


# Performance snapshot

continued

Reliability	Eastern Power Networks	London Power Networks	South Eastern Power Networks	UK Power Networks (weighted average)
<b>Customers Interrupted*</b> <small>(unweighted, including exceptional events) CI</small>	51.5	18.9	51.9	42.4
<b>Customer Minutes Lost</b> <small>(unweighted, including exceptional events) CML</small>	34.3	18.7	40.0	31.5
<b>Customers Interrupted*</b> <small>(unweighted, excluding exceptional events) CI</small>	43.3	18.7	47.7	37.6
<b>Customers Minutes Lost</b> <small>(unweighted, excluding exceptional events) CML</small>	29.8	18.7	34.0	27.9
Connections				
<b>Time to Quote (LVSSA) (days)</b>	5.6	3.6	4.6	4.9
<b>Time to Connect (LVSSA) (days)</b>	42.8	41.3	37.7	40.8
<b>ICE scheme penalties incurred</b> <small>£m (2012/13 prices)</small>	0	0	0	0

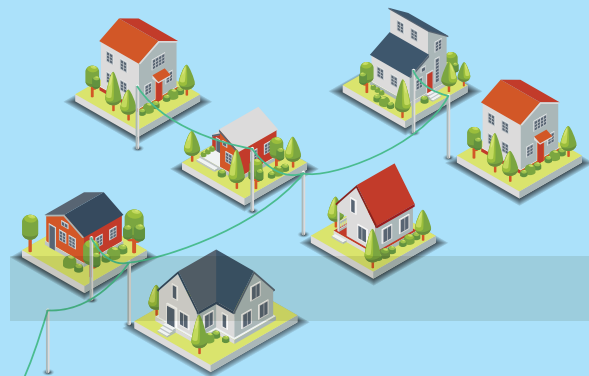
\* Per 100 customers. Numbers are before the finalisation of exceptional events by Ofgem



# Performance snapshot

continued

Customer Satisfaction	Eastern Power Networks	London Power Networks	South Eastern Power Networks	UK Power Networks
Overall Broad Measure of Customer Satisfaction (BMOCS) <small>(score out of 10)</small>	8.55	8.39	8.58	8.51 <sup>**</sup>
Social Obligations				
Individual Stakeholder Engagement & Consumer Vulnerability <small>(score out of 10)</small>	7.53	7.53	7.53	7.53 <sup>***</sup>
Additional Qualitative Summary Information				
Lost Time Incident Frequency Rate (LTIFR) <small>LTI/100,000 hours worked</small>	n/a	n/a	n/a	0.02 <sup>***</sup>
Environmental impact Business Carbon Footprint (tCO <sub>2</sub> e)	27,608	17,401	21,212	66,221
Innovation spend by each licensee <small>£m (2012/13 prices)</small>	1.13	6.88	2.16	10.17



\* Average.  
 \*\* Score is given to group but applied to each license area.  
 \*\*\* Reported at a group level regulated business only.

# Our operations

Delivering electricity to 18 million people

## London

### London Power Networks

We look after the electricity network for Inner London, with responsibility for delivering power to iconic buildings and businesses as well as high profile international events throughout the year.

## South East

### South Eastern Power Networks

We serve South London, Kent, East Sussex and parts of West Sussex, covering a rich variety of customers and locations.

## East

### Eastern Power Networks

We deliver power to North London and East Anglia, encompassing a diverse range of urban and rural areas as well as a huge coastline.

UK Power Networks owns, operates and manages three of the 14 regulated electricity distribution networks in Great Britain, covering London, the South East and the East of England. Our networks deliver electricity to 18 million people (8.2 million homes and businesses); 28% of the United Kingdom's population.

We are a pure network operator. We do not generate or buy electricity, nor do we sell it to customers.

Our responsibility is to **'keep the lights on'** for the customers connected to our network. We:

- > Maintain the safety and reliability of our electricity networks
- > Efficiently connect new customers to our electricity networks, including power generators
- > Restore supply as quickly as possible to customers who experience an interruption
- > Innovate to continually improve efficiency and the service we provide to our customers
- > Facilitate a low-carbon environment by investing in assets, processes and initiatives that enable low carbon technology to be connected to our network
- > Extend and upgrade the network to meet our customers' future needs
- > Do all we can to ensure that cost to our customers is kept as low as possible

# Customer satisfaction

We are committed to delivering excellent customer service.

We are determined to provide the service that our customers expect and to make the experience of being a UK Power Networks customer as easy as possible, especially for those vulnerable customers who need extra support from us.

Our customer service performance is measured by a survey called the Broad Measure of Customer Satisfaction. This survey is run by an independent third party provider, which is common to all Distribution Network Operators. Customers are selected at random each month and asked to score us out of 10 for the service they received from us. The survey asks how easy it was to contact us and how effective we were at communicating and responding to their requirements. It asks questions about new electricity connections, and changes to existing ones, planned and unplanned power cuts, and about how easy or otherwise it is for customers to tell us about faults on the networks, such as voltage problems.

Our performance in customer satisfaction is improving year on year. Last year, in 2015/16, we achieved our best ever performance of 8.5 out of ten, on average across our three networks. In other words, we achieved 85% customer satisfaction on average across the three licence areas.

The table below shows how this score was arrived at across our three licence areas.

A key indicator of how well we are performing is the way we act when there is a problem, such as a power cut. We are evaluated both on how we communicate with customers and how we solve the problem. Customer service is of utmost importance to us across all areas of our operation, so we have invested in 5,000 hours of customer service training in 2015/16. For example, last year employees from all levels of UK Power Networks attending training at which they were able to experience first hand what it feels like to have poor eyesight or arthritis. This type of training enabled them to deal more carefully with customers who live with such conditions.

We believe that there is always room for improvement and we recognise that our service with regard to electricity connections in particular could be improved. We are exploring better ways to set up new connections and to make changes to existing connections easier for customers. For example, as a result of feedback at our customer forums we redesigned our quote letters to make them shorter and easier to understand.

To improve our customer service, we reviewed our processes and ways we communicate with our customers. We held forums and events engaging with 39,000 stakeholders to test ideas. A theme that emerged strongly from our stakeholders was that they wanted multiple ways to contact us. As a result we developed a range of ways to tell customers what is happening and to make it easy for them to get in touch with us. Fifteen communication channels were available by the end of March 2016. As well as phoning, texting or emailing, customers can now contact us using video chat or web chat. We believe that more is possible so we plan to introduce more ways to communicate for the benefit of our customers.

Acting on what our stakeholders tell us is central to our approach. For example, we held a session with 30 Explorer Scouts and another with 10 young people from the South Cambridgeshire Youth Council who are our future customers. We also improved our online presence, introducing, for example, a way for customers to report a power cut online. We are delighted that we have won a number of awards for this work, including Best Digital Utility at the Utility Week Achievement Awards. Also, Ofgem's Stakeholder Panel ranked our work with stakeholders as the second best in the industry in 2015/16. This was a significant improvement from 2014/15 and is evidence that we are making good progress.

## Customer satisfaction scores

	Power cuts	General Enquiries	Connections	2015/16 Broad measure of customer satisfaction (weighted average across the regions)
Eastern Power Networks	8.88	9.16	8.10	8.55
London Power Networks	8.52	8.86	8.13	8.39
Southern Power Networks	8.63	9.12	8.34	8.58



# Customer satisfaction

continued

## Key

- Failed to complete an annual output or forecast to miss the remainder of our eight-year output
- Either did not meet the annual output target, but remains on target to meet the eight-year output OR successful achievement of the annual output but uncertainty about likelihood of meeting the eight-year target
- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
1	Improve performance of all UK Power Networks' DNOs in all components of the customer satisfaction survey, achieving an average overall performance of 8.3 for EPN and SPN and 8.1 for LPN over RIIO-ED1.	We have exceeded our Customer Satisfaction Survey score targets, achieving scores of 8.5, 8.6 and 8.4 in Eastern Power Networks (EPN), South Eastern Power Networks (SPN) and London Power Networks (LPN) respectively.	●
2	On average, answer calls from customers within five seconds.	Our average time to answer calls to our published power cut phone lines was 16.5 seconds. We continue to improve our call handling processes and systems to respond to customer calls faster and we are now achieving an average time to answer of less than five seconds and are confident this will continue over the RIIO-ED1 period.	●
3	Resolve 70% of all customer complaints within one day and 95% within 31 days.	We resolved 61% of complaints within one working day and 94% within 31 days. Although currently behind our target performance, we have identified areas for improvement in the way we resolve complaints. We are committed to achieving our target performance over the RIIO-ED1 period.	●
4	Contact 100% of customers within 24 hours to ensure any work they have requested has been completed to their satisfaction.	Each day we review all Connections and General Enquiries work that has been completed. We contact all of these customers within 24 hours to check that the work they have requested has been completed to their satisfaction.	●
5	Get the lights back on for 90% of HV power cuts within two hours.	We restored power for 96% of high voltage (HV) power cuts within two hours, so that the inconvenience of power cuts are kept to a minimum.	●
6	Provide multiple ways for customers to stay regularly updated on the estimated time for supply restoration and on any changes to the estimated time. As a minimum this will include phone, SMS text, Twitter and online.	Since the beginning of RIIO-ED1, our customers have had multiple channels available to them to stay up to date on the status of power cuts. These channels include phone, text messages, Twitter, Facebook, and our online interactive map. We have also introduced two new channels of communication this year as a result of customer feedback: web chat and video chat. We aim to continue working with customers to improve the ways we keep them up to date when power cuts occur.	●
7	Proactively contact 100% of registered vulnerable customers to offer support if they are without power.	When power cuts occur, we contact all registered vulnerable customers affected to make sure they have the support they need until their power is restored. We have also worked hard to increase the number of vulnerable customers registered on our systems by working with various local charities and parish councils.	●
8	Continue with our three Critical Friends Panels per DNO per annum.	We held three Critical Friends panels in each DNO in 2015/16.	●

# Customer satisfaction

continued

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
9	Publish and review a UK Power Networks business plan update every year.	This document, the RIIO-ED1 Business Plan Commitment Report under Standard Licence Condition (SLC) 50, includes an update to all our output commitments from our RIIO-ED1 business plan. In the Value for Money section, later in this report, you will find an update on our expenditure forecast for the remainder of RIIO-ED1. This report will be published annually every October.	
10	Publish an annual strategic development statement for Central London.	We recognise that this annual report will add value to our stakeholders in London. We are on schedule to publish a review of our 2015/16 activities in December 2016. This will detail the progress we have made on delivering the specific activities to improve the Central London Network set out in our Business Plan.	
11	Review our economic assumptions with our Critical Friends Panels each year.	We discussed our economic assumptions at our Critical Friends Panels that we held in October and November of 2015 across our three licence areas. This has provided an independent critique of our approach and assumptions.	
12	Appoint an independent chairperson to our Critical Friends Panels.	Independent chairpersons were appointed to our Critical Friends Panel in August 2013 and will continue to chair the sessions throughout RIIO-ED1.	
13	Hold a Distributed Generation forum annually.	A Distributed Generation forum was held on September 2015. In the Connection section you can see information on how this is helping more low carbon generation to be connected to the UK energy system.	
14	Continue to use our stakeholder feedback to improve our customer-facing business processes.	We use a "You said, we did" approach to our stakeholder feedback to ensure we track and implement the actions we agree with our stakeholders. Our stakeholder submission gave details of all the improvements we have made to our business processes as a direct result of stakeholder feedback. For 2015/16 we ranked in second place for our submission, which is a 29% improvement compared with our performance the previous year. You can read more here: <a href="http://www.ukpowernetworks.co.uk/internet/en/have-your-say/documents/UK%20Power%20Networks%20Part%201.pdf">http://www.ukpowernetworks.co.uk/internet/en/have-your-say/documents/UK%20Power%20Networks%20Part%201.pdf</a> .	

# Customer satisfaction

continued

We are always seeking to innovate to improve the customer experience. Once we have researched and tested a new idea, we bring it into the business and run with it. Recent developments include apps that help our field staff communicate with non-English speakers.

## Innovative communication

We were the first electricity distribution company to launch web chat for customers. We also tested the video chat concept with our customers and it proved popular, so we launched our own. Since then, 4,800 customers have used these methods to communicate with us, with an 88% satisfaction rating.

We know that customers want to know what is happening in their area during a power cut. So, in an innovation unique among utilities, we displayed tweets from customers on our online power cut map. We were effectively answering their questions before they asked them.

## How we use Twitter

Our customers appreciate communicating with us through Twitter. That's why we've held more live question and answer sessions this year, along with a 12-hour live Tweetathon. In the Tweetathon, we sent 99 live updates from 8am to 8pm about all aspects of the business.

# 15

Customers can find information and communicate with us through 15 different channels at any time

# 448,000

Proactive messages sent to customers about power cuts

# Reliability & availability

UK Power Networks works hard to ensure that the supply we provide to our customers remains among the most reliable in the UK.

In 2015/16, our London network was the most reliable network in the country.

The 2015/16 reliability results across our three networks meant that it was a record breaking year for us. On average, across our three networks, we reduced the number of unplanned interruptions that customers experience by 17%, as well as shortening the time customers are without power, in these cases by 30% since 2012/13. The measures are referred to as unplanned Customer Interruptions (CI) and unplanned Customer Minutes Lost (CML) respectively.

This improvement is the result of a combination of our performance-focused culture and investing in new technologies. By developing tools that provide our teams with the right information in real time, our staff are aware of problems and the progress being made to resolve them. This allows them to make better-informed decisions and to restore power supplies more quickly. We have also improved the timeliness and accuracy of information to reduce the inconvenience of a power cut for customers, resulting in the power-cut related element of our customer satisfaction score improving to 8.7 in 2015/16.

We are always looking for new technologies and ways of working that improve reliability. Technology can play a key role in fixing problems before they develop into power cuts. It can also help make sure that, when the power is interrupted, supplies can be restored as quickly as possible. The Automated Power Restoration System (APRS) is a great example of how cutting edge technology can help get the lights back on more quickly and is explained in more detail in our case study on page 14.



Improvements to efficiency by using small remote controlled helicopters to carry out overhead line inspections.

## Percentage improvement since 2012/13<sup>1</sup> in network reliability and availability<sup>2</sup>

	Eastern Power Networks	London Power Networks	South Eastern Power Networks	UK Power Networks
Customer Interruptions <sup>3</sup>	20%	23%	10%	17%
Customer Minutes Lost <sup>4</sup>	30%	42%	19%	30%

<sup>1</sup> 2012/13 is the base year for measuring performance improvement.

<sup>2</sup> This relates to power cuts that are unplanned.

<sup>3</sup> Customers Interruptions (CI) are the number of customers interrupted per 100 customers on our network.

<sup>4</sup> Customer Minutes Lost (CML) are the average length of time customers are without power, for power cuts lasting three minutes or longer.

# Reliability & availability

continued

## Key

- Failed to complete an annual output or forecast to miss the remainder of our eight-year output
- Either did not meet the annual output target, but remains on target to meet the eight-year output OR successful achievement of the annual output but uncertainty about likelihood of meeting the eight-year target
- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
15	Maintain LPN's position as having the lowest level of customer interruptions and customer minutes lost in the UK targeting 23 CIs (7% improvement) and 30 CMLs (8% improvement) for unplanned interruptions (Compared to 2012/13 base).	We are proud that LPN achieved 19 unplanned CIs (23% improvement since 2012/13) and 19 unplanned CMLs (42% improvement since 2012/13) which make it the highest performing network in the UK on both measures.	●
16	Reduce EPN and SPN customer interruptions by more than 12% targeting 51 CI in EPN and 49 CI in SPN for unplanned interruptions (Compared to 2012/13 base).	In 2015/16 EPN reduced unplanned customer interruptions to 43 which represents a 20% improvement since 2012/13. SPN reduced unplanned customer interruptions to 48 which is a 10% improvement since 2012/13.	●
17	Reduce EPN and SPN customer minutes lost (CML) by more than 19% targeting 35 CML in EPN and 35 CML in SPN for unplanned interruptions (Compared to 2012/13 base).	In 2015/16 EPN and SPN reduced unplanned customer minutes lost to 30 and 34 respectively. This performance represents an improvement of more than 19% since 2012/13.	●
18	Maintain the health of the network during RIIO-ED1 as measured by the health index, at least at the end of DPCR5 levels.	We are on track to deliver 100% of our agreed Health Index target. The health of the network refers to its physical condition. As part of the RIIO-ED1 business planning process, we applied for funding to deliver a health index target that maintains the required levels. As part of the Ofgem cost assessment process, however, this target has been modified to reflect the efficient target for which we received funding. Our plans reflect the achievement of this new target.	●
19	Continue to improve the load index of the networks by reducing the number of highly rated sites to 18 in EPN, 14 in SPN and 12 in LPN by the end of RIIO-ED1.	In this context, highly rated sites are those that are heavily loaded and so are in need of attention. At the end of the 2015/16 year the number of highly rated sites was 11 in EPN, 11 in SPN and five in LPN. This is ahead of the RIIO-ED1 target and we continue to work to ensure we maintain risk levels within the target.	●
20	Protect 78 substation sites from the risk of flooding.	In 2015/16, we protected 278,400 customers from the risk of flooding by protecting eight sites and remain on track to deliver 78 sites over RIIO-ED1. We regularly update our flood protection programme to make use of the latest available data and maximise the reduction in flood risk to customers. This means we will focus on the sites that deliver the greatest reduction in risk and those that supply other critical infrastructure such as water pumping stations.	●
21	Reduce the number of 12 hour failures by more than 30%.	We want to give customers a safe and reliable supply, that is why we aim restore loss of supply within 12 hours for unplanned power cuts. The number of 12-hour failures in 2015/16 was 8,615, which is a 63% reduction since we made this commitment in 2012/13.	●
22	Reduce worst served customers to less than 10,000 in either EPN or SPN.	"Worst served customers" is a category specified by Ofgem that identifies those customers who receive service that is below a stipulated level. The number of worst served customers in 2015/16 was 4,296 in EPN and 8,523 in SPN. This year we identified an error in our data which highlighted that we had historically been overstating the number of worst served customers. Based on this latest information, we are now targeting to reduce worst served customers by 20% from current levels which means to less than 3,437 in EPN and 6,818 in SPN by end of RIIO-ED1.	●

# Reliability & availability

continued

Our customers expect us to keep the lights on. There will sometimes be interruptions to the power supply but we are reducing the number of power cuts, the number of people who are affected and the length of time that power cuts last. We make sure that our processes and IT systems help us restore electricity supply quickly and safely. We want to be at the forefront of innovations that will provide even more secure power supplies in the future.

## Best in class technology

We are proud to be the first electricity distribution company to use the latest generation of self-healing power systems on our network. This technology, called Automatic Power Restoration System, is another way to reduce the impact of power cuts on our customers. When something goes wrong on the network, it automatically identifies and isolates the fault and reroutes the power. In many cases the power can be restored remotely, with no one needed to attend the site. This means that, even with major faults, the number of people affected is much lower and we can focus our attention on them and restore their power much quicker.



# Environment

Our aim is to reduce any negative impact that UK Power Networks has on the environment and we intend to do that by making our operations as sustainable as we can.

## Our target is to reduce our carbon footprint by 2% every year over the RIIO-ED1 period.

In 2015/16 we reduced our carbon footprint (CO<sub>2</sub>) across UK Power Networks by 14%, taking it from 77,000 tonnes of CO<sub>2</sub> in the previous year to 66,000 tonnes of CO<sub>2</sub>. We achieved this by consolidating staff into fewer buildings, implementing energy saving initiatives such as the introduction of LED lighting, and investing £7 million to replace older vehicles with safer, more efficient models. The milder winter also had an impact. We intend to maintain this level of business carbon footprint by minimising business miles and making further improvements to buildings and vehicle efficiency.

The impact of our overhead line networks on the countryside is important to many of our stakeholders. We have committed to put underground, by 2023, 80km of line that is currently overhead in our South Eastern network and 96km in our Eastern network. We believe that landscape experts are the best people to decide which lines to relocate underground. A steering group, chaired by Natural England and consisting of representatives from National Parks and Areas of Outstanding Natural Beauty, decides which overhead lines should be replaced with underground lines. UK Power Networks provides technical advice to the group but is a non-voting member. We worked with the steering group in 2015/16 to identify the overhead lines that will go underground by 2023. We have two sets of schemes currently in the planning stage: one set of ten schemes that will remove 29km of overhead line on our Eastern network, and a further set of fifteen schemes that will remove 52km of overhead line on our South Eastern network.

In 2015/16 we removed 5.3km of overhead line on our South Eastern network. No overhead line was replaced on our Eastern Network in 2015/16 but we expect to see progress here once the projects currently in planning move into the delivery phase.

Finding better ways of doing things helps us minimise our impact on the environment. Our commitment is to spend at least 0.5% of our revenue each year, approximately £7m, on innovation. In 2015/16 we spent £11m. As part of supporting the environment, we explored the impact of various low carbon technologies such as distributed generation, embedded storage, heat pumps and electric vehicles on the network. In addition, we innovate in order to move to a more cost-efficient environment for customers. Our portfolio of projects is wide-ranging, from trialling a new and more effective way of reinstating the road after we have finished working, to building and operating the largest battery in Great Britain which can help smooth the impact of intermittent low carbon generation, allowing more to be connected efficiently. Further information can be found on our innovation website <http://innovation.ukpowernetworks.co.uk/innovation/en/>

**7%**

Ahead of the 2015/16 pro-rated business carbon footprint target



Removal of overhead lines at Ightham Mote, Kent.

# Environment

continued

## Key

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- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
23	Reduce our Business Carbon Footprint by 2% per annum.	Our Business Carbon Footprint in 2015/16 was 66,221 tCO <sub>2</sub> e which is ahead of our target for the year of 71,041 tCO <sub>2</sub> e and a 14% reduction on the previous year.	●
24	Continue to divert 70% of office and depot waste from landfill* and recycle 98% of streetworks spoil. <small>* The word "recycle" has been amended to "divert from landfill", to more accurately reflect UKPN's long established process of diverting 70% of office and depot waste from landfill.</small>	UK Power Networks continues to divert 70% of office and depot waste from landfill. We recycled 97.3% of streetworks spoil, which is the waste left over from road works. We continue to improve our processes and technology and we are confident that over the RIIO-ED1 period we will recycle 98% of this spoil.	●
25	Maintain sulphur hexafluoride (SF <sub>6</sub> ) leakage at less than 0.2% as a proportion of SF <sub>6</sub> in service.	SF <sub>6</sub> leakage was 0.1% of the SF <sub>6</sub> in service in 2015/16, which is lower than the target. SF <sub>6</sub> is a gas that contributes to the greenhouse effect, so we are committed to minimising the leakage to reduce the impact on the environment.	●
26	Reduce cable fluid leakage of 207,000 litres by 2% per annum.	Fluid leakage in 2015/16 was 208,248 litres, which is a reduction of 21% compared with last year. Large projects to replace fluid filled cables are due for delivery in 2017 which will ensure we meet this target over the RIIO-ED1 period, limiting the impact this has on the environment.	●
27	Underground the equivalent of 80km of HV overhead line in SPN and 96km of HV overhead line in EPN in Areas of Outstanding Natural Beauty and National Parks.	In 2015/16 we replaced 5.3km of previously overhead lines in SPN and 0km in EPN with underground cables to improve the visual impact of our network. We continue to work with our stakeholders to identify schemes that will have the greatest visual impact. We have agreed schemes with stakeholders that account for about half of the target length and aim to have agreed a programme of schemes by next year to fulfil our target.	●
28	Innovation expenditure of 0.5% of allowed revenues and win largest market share of the NIC competition.	In 2015/16 we spent £10.8 million (in 2015/16 prices) on innovation projects. This equates to 0.9% of allowed revenue. For the 2016 Network Innovation Competition (NIC), we submitted a project and are a significant contributor in another which is led by National Grid. If successful these will contribute to our RIIO-ED1 portfolio. As we cannot be certain what share of the NIC competition our projects will account for over the RIIO-ED1 period, we have reflected this in the status against this commitment. We will continue to invest in innovation projects where there is potential to achieve benefits for our customers, for example we reduced costs by £78m through use of innovative solutions on the network.	●
29	Investigate all noise issues and address all non-compliant sites.	We continue to investigate all noise issues raised with us. In 2015/16 we investigated 46 issues and all non compliant sites are being addressed. For example, in June 2015 we installed noise absorbent panels at Hatchards Road Main Substation site in Islington. As a result of this installation, the noise from the substation no longer disturbs local residents.	●



# Environment

continued

**Innovation is a key element of our vision for UK Power Networks. We are not interested in innovation for its own sake. Any idea that we develop must result in something that is better, easier, greener, cheaper or safer. Our portfolio of projects ranges from operating the largest electric storage facility in Great Britain to apps that help our field staff communicate with non-English speakers in the communities we serve.**

## The 'Big Battery'

In 2015 we built and now operate the first and, to date, the largest energy storage facility in Great Britain. The Smarter Network Storage (SNS) project features a 6MW/10MWh storage solution comprising approximately 50,000 lithium-ion batteries, located in Leighton Buzzard, Bedfordshire. This technology has enabled UK Power Networks to manage electricity demand at peak times without building excess capacity. By charging during the day, the 'Big Battery' stores electricity that can then be dispatched in the evening when residential customers in the town of Leighton Buzzard need it.



Explaining how the 'Big Battery' control software works to Jeremy Pocklington, Director General of Markets and Infrastructure Group at the former Department of Energy and Climate Change.

# Connections

We produce a Service Development plan, in line with Ofgem's Incentive on Connections Engagement, to demonstrate delivery on our commitments to stakeholders.



## Feedback from customers and stakeholders is essential to achieving this vision.

By listening to them and acting on what they tell us, we can make the process of making a connection to our network as transparent and efficient as possible.

So that all stakeholders can have the opportunity to provide feedback easily and in a way that we can respond to, we have multiple ways of engaging with stakeholders. The table below shows how we have engaged with the different groups of stakeholders who have an interest in our connections activities.

We produced a Service Development plan in line with Ofgem's Incentive on Connections Engagement (ICE) to deliver on our commitments. This Service Development plan keeps track of the actions we have agreed with stakeholders and customers and provides a yearly update on our progress towards implementation. Many of the agreed actions overlap with the commitments detailed in the table below. The full Service Development plan (ICE report) can be found at <http://www.ukpowernetworks.co.uk/internet/en/have-your-say/listening-to-our-connections-customers/> with more detail on the ways we have improved our service in 2015/16 and our plans for 2016/17.

Engagement really works. As an example, customers have told us how much they value the opportunity to have informal conversations with our designers in the earliest stages of their projects. We have held 40 surgeries in the year that give customers direct access to technical experts from UK Power Networks. These experts provide

technical support and answer queries before customers make a connection application. This means that customers can resolve technical questions before completing their application, ensuring a smoother, more efficient process. Customers have found this service extremely useful and on average have given a satisfaction score of 92%.

**92%**

On average customers have given a satisfaction score of 92% at pre-application surgeries

### How we engaged this year

<b>Ways we engaged</b>	Critical Friends Panels	Forums	Scrutiny panels	Industry events	Individual face-to-face meetings	Ask the expert sessions	Market research
<b>Targeted at</b>	All UK Power Networks stakeholders	Interested connections stakeholders	Regular connections customers	Stakeholders who may be affected by UK Power Networks connections	<ul style="list-style-type: none"> <li>Regular customers</li> <li>MPs</li> <li>Ofgem</li> </ul>	Existing and new customers	All customers
<b>Example</b>	We held nine sessions in a format customers endorsed	We held six forums for metered connections customers in three locations	We held four Scrutiny Panels where experienced customer challenged our plans	We presented at the Electrical Contractors' Association (ECA) events	We held more than 90 meetings with our account managed customers	We held 40 surgeries where customers could ask one of our expert designers technical questions	We held telephone and online interviews with over 900 customers

# Connections

continued

## Key

- Failed to complete an annual output or forecast to miss the remainder of our eight-year output
- Either did not meet the annual output target, but remains on target to meet the eight-year output OR successful achievement of the annual output but uncertainty about likelihood of meeting the eight-year target
- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
30	Achieve an average time to quote from the time of enquiry of 8.2 days for low voltage single services and 11.7 days for low voltage multiple services.	In 2015/16 we achieved an average time to quote of 4.9 days for low voltage single services and 7.6 days for low voltage multiple services.	
31	Achieve an average time to connect of 42 days for low voltage single services and 53 days for low voltage multiple services.	In 2015/16 we achieved an average time from quote acceptance to connection of 41 days for low voltage single services and 48 days for low voltage multiple services.	
32	Achieve in excess of 99% compliance with our Guaranteed Standards of Performance (GSoP) targets.	In 2015/16 we achieved 99.65% compliance with our GSoP targets.	
33	From Q3 2014 we will commence the introduction of new online services for customers requiring new or altered metered services and all customers requiring unmetered connections. These services will include: <ul style="list-style-type: none"> <li>• Submission of service requests</li> <li>• Quotations and estimates</li> <li>• Service request and job delivery tracking</li> <li>• Payment</li> <li>• Appointment booking</li> </ul>	Online services have been introduced for customers requesting General Enquiries related work which includes altered meter services. Following a trial of the online services for Connections customers, we are taking account of customer feedback to ensure the system we put in place delivers the level of service our customers expect. This service will be implemented as part of our company-wide Digital Strategy.	
34	Integrate Flexible Plug and Play connection offers (as per our Low Carbon Network Fund Project) into business-as-usual by Q2 2015.	We began rolling out Flexible Distributed Generation (FDG) connection offers in November 2014. In 2015/16 we opened two new networks for FDG offers and will continue to introduce more areas throughout the RIIO-ED1 period.	
35	Engage regularly with other connections stakeholders on a frequency agreed with them.	We engage with our connections stakeholders three times a year through user groups and you can read more about it in the highlights section on page 18.	
36	From 2014, agree and publish a Service Development Plan with associated key performance indicators.	We published our Incentive on Connections Engagement plan in May 2016. This Service Development Plan outlines the ways in which we will improve our engagement with connections customers and improve the service we provide to them. This can be found at the link in the summary section above.	
37	Publish quarterly updates to communicate progress against the service development plan.	We published quarterly updates to our engagement plan in the 2015/16 regulatory year. These can be found at the link in the summary section above.	
38	Review and revise the plan annually in agreement with stakeholders.	Each year we update the plan to show how we intend to develop our services in the coming year. This can be found at the link in the summary section above.	
39	Publish an annual progress update to Ofgem and stakeholders.	We also publish an update on our progress in the year. This was published on our website and assessed by Ofgem and stakeholders who agreed we have delivered on the commitments we made to customers.	

# Connections

continued

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
40	Complete an annual independent audit of our achievements against the agreed service development plan.	Before we submitted our update we asked AccountAbility to review our submission and they confirmed that it was accurate and provided a relevant update to stakeholders.	
41	Work with Connections stakeholders to develop our products and services through 'user groups' three times per annum with common interest customer groups to gain insight into their needs and requirements and shape innovation and development within UK Power Networks.	As described in more detail above, UK Power Networks holds three forums every year and customers have fed back that these sessions are helpful and provide the right environment for working together to improve our service to them.	
42	Offer account management to any business/commercial customer who requests this service. Develop more 'pre-application' support for customers to enable them to make informed decisions on their schemes.	An account manager is assigned to any business or commercial customer who requests one. In addition to this, other methods of pre-application support are available such as our "Ask the Expert" service and our surgeries that have proved extremely useful to them.	
43	Extend our "Ask the Expert" service to include phone, web chat and face-to-face options.	Our "Ask the Expert" service continues to be available by phone, email and face-to-face surgeries and we have also trialled a webchat option for business customers which we are looking to implement by the end of 2016. In addition to this, we are looking to make our connections surgeries available to customers through webinars in 2017 to make them more accessible to a wider audience.	
44	Publish 'heat maps' to provide an overview of current network capacities by location.	We have published 'heat maps' for distributed generation capacity (available at <a href="http://www.ukpowernetworks.co.uk/internet/en/our-services/list-of-services/electricity-generation/find-out-where-our-overhead-network-is/">http://www.ukpowernetworks.co.uk/internet/en/our-services/list-of-services/electricity-generation/find-out-where-our-overhead-network-is/</a> ) and continue to work with stakeholders to provide a similar service for storage and demand capacity, which provides helpful information for prospective customers.	
45	Provide access via a web portal to cable diagrams, allowing customer access to up to date information.	Cable diagrams are now available for Independent Connection Providers (ICPs) via a web portal. This allows them to determine points of connection which supports effective competition in connections markets.	
46	Extend the online price illustrator to include all market segments and provide indicative timescales in addition to cost illustrations.	This service is available for Small Services and General Enquiries customers. It has been used 26,445 times and we continue to work to extend this to all market segments over the RIIO-ED1 period.	
47	Extend our current DG surgery sessions to other customer groups to allow customers to discuss their connection proposals informally prior to application. Increase the choice and flexibility of connections services available to customers.	This service was introduced in April 2015 and has been used by more than 100 customers in 400 surgeries who have said that it helps make the application process smoother and more efficient.	
48	Introduce longer office hours for our contact centre: a) 08.00 to 20.00 weekdays; (b) 09.00 to 16.00 Saturdays.	Customers can now contact our connections advisors between 08.00 and 20.00 on weekdays and between 09.00 and 16.00 on Saturdays.	

# Connections

continued

No	Eight year RII0-ED1 Output Commitment	2015/16 Update	Status
49	Offer two-hour time-banded appointments for site visits.	We have started offering two-hour time-banded appointments to customers for site visits. We are doing further work to measure how often these appointments are kept and this will be fully implemented over the RII0-ED1 period.	
50	Schedule work delivery across a wider working window to include evenings and weekends.	New connections to the network can now be carried out at evenings and weekends if that is what the customer requests.	
51	Extend the convertible quotes concept so that quotations offered in a competitive market segment can be fully or partly accepted dependent on the customer's preference.	We began issuing convertible quotes to connections customers on October 2015, making it easier to consider competitive options for delivery of their connection.	
52	Self-determination of the Point of Connection for an increasing range of connections.	We introduced self-determination of Point of Connection in October 2015 for all connections up to 140kVA in LPN and up to 1,000kVA in SPN and EPN. We continue to engage with companies which provide independent connections and, upon review of the first year of such activity, will seek to further extend the scope of these arrangements.	
53	HV jointing to existing networks to include all associated planning and operational activities.	As of October 2015 third party connections providers are now able to carry out all associated activities of HV jointing to existing networks, ensuring effective competition.	
54	Extend live LV jointing to the LPN interconnected area.	We have introduced live LV jointing for third party connections providers in LPN. This gives customers greater choice of provider and the ability to choose from a wider range of activities relating to their connection.	

# Connections

continued

We recognise that our customers' needs are constantly evolving, so we engage with them regularly. Every touch point with our customers is an opportunity to learn, from a phone call with a customer about their connection to talking to fifty people at a large event, and it's a crucial step in shaping our services.

## Meeting stakeholders requirements

Since 2013 we have offered 'heat maps' showing the levels of remaining capacity on our networks for the connection of Distributed Generation (DG). This information is displayed in a geographical format. Stakeholders fed back that, while they found this service useful, it could be updated to include additional relevant information.

To address this we held a specific design session in our Spring 2015 DG forum to discuss with stakeholders the improvements that would benefit them the most.

After listening to this feedback we improved the tool to ensure it is updated more often and brings together other relevant information, such as network constraints in one place. Over 700 customers have access to this tool and use it to help them determine the best place to connect their DG before making a connection application. This helps to make the process of connecting DG to the network more transparent and ultimately quicker.



# Safety

Safety is always at the forefront of our minds and is our number one priority.

We want everyone who works for UK Power Networks to come home from work safe each day.

This year, three of our employees needed at least a full day off work as a result of injury. This is half the number that were in this category last year and translates to a Lost Time Recordable Injuries (LTRI) rate of 0.02. The Lost Time Recordable Injuries rate shows the number of work-related accidents where an employee needs at least one day off due to injury per 100,000 hours worked. Another key safety measure for us is Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). This measure records the number of work related accidents that have caused a reportable injury such as death or hospital treatment. This year we had seven RIDDOR incidents. Our whole culture is designed to minimise harm. Everyone in the organisation is involved in our safety programme called 'Stay Safe' that we introduced in 2013. One in eight of our employees has volunteered to be a safety coach and this is helping to embed an open, honest approach to safety throughout the company.

As well as keeping our employees safe and well, we want to ensure that no member of the public comes to harm as a result of our network. This is why we are heavily involved with safety education relating to electricity for children and the general public. We have engaged with children and members of the public through a range of means such as school visits, online interaction and public safety events. We recognise that for our safety message to be memorable as well as informative, we need to make our events and visits fun for all ages. So that is what we have done with our online interactions, features, games and quizzes. In the first year of RIIO-ED1, we reached 280,000 people.



791

We reached 791 pupils through our Crucial Crew event, discussing electricity safety and energy efficiency

3

The number of incidents where employees and contractors needed at least a full day off work due to injuries

# Safety

continued

## Key

- Failed to complete an annual output or forecast to miss the remainder of our eight-year output
- Either did not meet the annual output target, but remains on target to meet the eight-year output OR successful achievement of the annual output but uncertainty about likelihood of meeting the eight-year target
- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
55	No formal notices or prosecutions by the HSE under applicable legislation.	We received no formal notices or prosecutions by the Health and Safety Executive (HSE) relating to incidents occurring in the RIIO-ED1 period.	
56	Deliver the high safety criticality element of the asset health/risk index (deliver all asset improvements with a high safety criticality score (4) in the asset risk index).	As we move to implement the Common Methodology for measuring asset risk in line with Ofgem's timescale, we will work to ensure all work relating to high safety criticality assets is delivered over RIIO-ED1.	
57	Reduce the Total Recordable Injuries rate (accident rate per 100,000 hours worked) by 10% per annum to less than 0.5.	Total Recordable Injuries (TRI) includes all workplace injuries that result in an individual to either be absent from work, receive professional medical treatment or receive first aid treatment at work. The TRI rate in 2015/16 was 0.39, which is ahead of the target set for the end of RIIO-ED1. We continue to work hard to ensure this great performance is maintained and improved.	
58	Reduce the Lost Time Recordable Injuries (LTTRI) rate (accident rate per 100,000 hours worked) by 10% per annum to less than 0.05.	Lost Time Recordable Injuries is the measure relating to the most serious injuries and only includes injuries which result in the person being absent from work. The LTTRI rate in 2015/16 was 0.02, which is ahead of the target set for the end of RIIO-ED1 and represents a 66% reduction compared with the previous year. We continue to work hard to ensure this great performance is maintained and improved.	
59	Achieve at least one year with no RIDDOR reportable lost time incidents for employees and contractors by the end of the period.	In 2015/16 there were three reportable LTIs relating to our regulated activities and as we continue to improve safety we aim to achieve a full year with no reportable lost time injuries over the RIIO-ED1 period.	
60	At least one year with no RIDDOR reportable public harm resulting from our activities.	There was one reportable incident resulting in harm to the public in relation to our activities in 2015/16. As we continue to improve our safety processes we aim to achieve a year with no reportable incidents over the RIIO-ED1 period.	
61	Engage with two million children and members of the public, either through face-to-face or via online interaction, on public safety issues over RIIO-ED1.	Through our website, school visits and other interaction with young people and the public we engaged with 280,000 people. This puts us on target to achieve two million over the RIIO-ED1 period.	



# Safety

continued

We work in an industry that can be dangerous, so we have an established and rigorous safety culture to lessen the risk of harm both to our people and the general public. This year we have halved the number of times employees needed at least a full day off work due to injury, continuing the downward trend we have seen in recent years. But complacency is the enemy of safety so we take every opportunity to learn from near misses as well as actual incidents.

# 280,000

We engaged with 280,000 people on public safety issues

## Stay Safe programme

Everyone in the organisation goes through our Stay Safe programme, which focuses on the behavioural elements that underlie a person's approach to safety. Using a mix of tools, techniques and insights, it helps us all to recognise our states of mind, our attitudes, the beliefs we hold, and the habits we aren't even aware of. These all have a huge – and sometimes subconscious – effect on our behaviour. With a combination of robust processes, good habits and an open culture, we aim to be one of the safest network operators in the industry.

**Mark Davies**  
Edif ERA



“ In our experience we have found the UK Power Networks approach to health and safety management to be an effective blend of clear direction, good communication and collaboration. This was recently exemplified in setting up a new subcontract with Edif ERA to undertake specialist earthing testing and inspections at UK Power Networks substations.

UK Power Networks took the time to meet us on site to understand the work being undertaken and the associated risks. In a nutshell, a common sense approach was adopted which has resulted in a robust and practical safety management system.”

# Social

The impact of power cuts on vulnerable people can be far greater than it is for the general population.

**We are especially committed to ensuring that we recognise and understand the needs of all of our vulnerable customers, and use that knowledge to provide them with a better, more tailored service.**

This year, we have worked with a number of charities such as Alzheimer's Society, Age UK, and the Royal Association for Deaf People, to learn about what vulnerable customers need from us, especially during a power cut.

We have worked hard to encourage our vulnerable customers to sign up to the Priority Services Register (PSR). This register is a list of vulnerable customers in the areas we serve who receive special care from us during a power cut. We proactively contact all our PSR customers to offer support if they are without power. We also provide every vulnerable customer with a dedicated, high-priority number that they can use if they need to reach us, and we send a welcome pack to everyone who has recently joined the register. We realise that some customers may be unaware of the services available to them. For that reason, we team up and work closely with parish councils and charities to publicise the PSR. As at the end of March 2016, we had almost 700,000 vulnerable customers on the register.

We know that over 10%<sup>1</sup> of households in England are currently in fuel poverty. As a respected corporate citizen, we take seriously our responsibility to do as much as we can to help them. This year, we launched a new scheme in partnership with Citizens Advice called 'You and Your Home'. This scheme was designed as a direct result of customer feedback, and it provides free and impartial advice on reducing energy bills, improving energy efficiency, finding the best tariff, managing fuel debt and offering benefits checks.

**697,000**

Number of customers on the Priority Service Register

**87%**

Our customer satisfaction score among our vulnerable customers



<sup>1</sup> Annual Fuel Poverty Statistics 2015, Department of Energy and Climate Change

**Key**

- Failed to complete an annual output or forecast to miss the remainder of our eight-year output
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- Successful achievement of an annual output and on target to meet our eight-year output

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
62	Double the number of customers on our priority service register.	We now have 696,967 people on our Priority Services Register, which is a 161% increase since we made this commitment in 2014. This means we have already achieved our goal, but we nevertheless continue to work hard to ensure all customers with additional needs are identified and receive the care they need during power cuts.	
63	Proactively contact all registered vulnerable customers to offer support if they are without power.	When power cuts occur, we contact all registered vulnerable customers affected to make sure they have the support they need until their power is restored. We are working hard along with local charities and parish councils to increase the number of vulnerable customers registered on our systems.	
64	Extend our local authority joint response pilot across our geographical footprint and standardise triggers.	We have extended this scheme to all areas to which we distribute electricity and we continue to update records to ensure triggers remain consistent. This means we alert the local authority at the outset of more significant power cuts and work together through to restoration of power supplies keeping our customers informed.	
65	Provide every vulnerable customer an alternative high priority dedicated number.	Vulnerable customers on our Priority Services Register receive a welcome pack which includes a dedicated number for them to call in case of a power cut.	
66	Distribute welcome packs to all new priority service register customers.	Welcome packs are provided to all new customers on the Priority Services Register. The packs include the information these customers need to ensure that they can receive the additional support they need if they experience a power cut.	
67	Host two subject-specific priority issue focus groups on vulnerable customers and fuel poverty every year.	We held nine engagement events with relevant stakeholders to discuss consumer vulnerability and fuel poverty.	
68	Maintain our community fund investing £300,000 per annum.	Through "Matched Funding", "Team Sport Awards", charity partnership donations and employee volunteering time we have provided £306,000 funding for local community schemes and charities.	
69	Work with National Energy Action (NEA) to map and profile fuel poor customers within our footprint.	We worked with National Energy Action to understand the variation of vulnerability across our region by mapping levels of unemployment, fuel poverty, customers on the PSR and other indices onto a map. This data is then updated annually to ensure it is accurate. This map allows us to target energy efficiency advice and customer care to the most deprived areas. For example using this map we selected locations where we held eight energy efficiency workshops.	

# Social

continued

No	Eight year RIIO-ED1 Output Commitment	2015/16 Update	Status
70	Publish information to targeted customers on how energy efficiency and demand-side activity can be used to manage energy consumption.	<p>We are running an innovative project, energywise, to investigate how DNOs can effectively engage with targeted customers and support them in the management of their energy use through energy saving and demand side response initiatives.</p> <p>The findings of this project have already enabled us to publish information to customers on how they can reduce their energy bills by using energy efficient appliances and managing their use of energy.</p>	
71	Deliver a series of targeted consumer surgeries for vulnerable residents designed to raise awareness of energy efficiency and how to manage energy bills.	We held 8 energy efficiency workshops which helped us reach 164 customers who are saving an average of £150 a year on their energy bills, as a result.	
72	Publish a strategy to explain how smart meters can be used to reduce fuel poverty.	Our innovative project, energywise, is researching the ways in which Smart Meters can benefit customers who are in fuel poverty. This project is due to complete in December 2017 and the findings will be used to inform our strategy which will be published in 2018.	
73	Create a group of UK Power Networks local community energy champions.	We have partnered with Community Energy South to create a group of local energy champions. These energy champions advise customers face-to-face about energy savings, renewable energy and finding the right tariffs which helps customers.	
74	Develop a project with NEA to educate young carers about energy efficiency.	In 2014/15, we worked with National Energy Action and held five workshops on energy efficiency. We received 95% positive feedback and learnt that it was difficult to track benefits. As a result, we focused on carers on the PSR and launched a new energy efficiency service.	
75	Organise and deliver school activity days to encourage safe, efficient use of energy.	We have extended the scope of our existing school safety days to include information on energy efficiency. We engaged with school age children 261,698 times over the year either online or face-to-face.	
76	Measure ourselves against other companies and seek inter and intra sector recognition/ accreditation by participating in external benchmarking such as achieving membership of the Sunday Times 100 Best Big Companies to Work For.	Our target was to achieve "Top 25 Best Big Companies to Work For" by 2015. We achieved this a year ahead of schedule and continue to focus on maintaining our inclusion on the list and improving our employee engagement score.	
77	Recruit and train over 1,000 staff as well as up-skill and develop existing employees to ensure that we maintain a suitably skilled and motivated workforce.	As the workforce ages, skilled staff retire and new skills are required. We have an effective pipeline which supplies us with trained staff so that we can keep the lights on. This resulted in the recruitment and training of 144 staff in 2015/16, and we remain on track to deliver our RIIO-ED1 target.	

# Social

continued

As a responsible corporate citizen we take our responsibility seriously to do as much as we can to help families in fuel poverty. Working with local charities and organisations such as housing associations, we have developed a number of programmes designed to alleviate the difficulties people face.

## Energywise: Little things to help you save energy

Our innovation project, energywise, is a partnership with ten organisations exploring how residential customers struggling with fuel bills can manage their energy usage better. This includes trialling energy-efficient devices such as eco kettles and LED lighting, along with time-of-use tariffs. The project is currently working with over 300 social housing tenants in the London Borough of Tower Hamlets. To date, we have delivered eight workshops with five housing associations and a further 14 housing providers said they were interested in running sessions in the future.

# 300

The project is currently working with over 300 social housing tenants in the London Borough of Tower Hamlets



# Value for money

We understand that energy costs are an important issue for our customers.

**Our charges typically make up approximately 16% of a domestic customer's bill. UK Power Networks' charges to domestic customers are the lowest of any DNO group.**

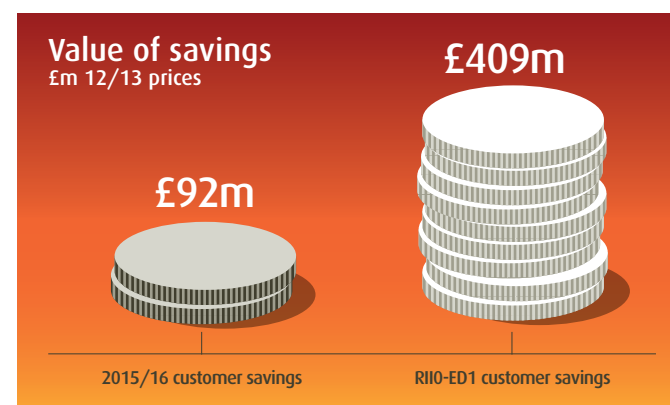
Our aim is to deliver all the services that our customers require for the lowest possible cost. To improve our efficiency we have:

- > Reduced our support staff headcount by 9%
- > Restructured our field staff organisation
- > Set up an alliance partnership to deliver large infrastructure projects efficiently. Our partners in this alliance are AMEC Foster Wheeler Ltd, Clancy Docwra Ltd, McNicholas Construction Services Ltd and Morrison Utility Services Ltd.

Ofgem incentivises us to be more efficient and we pass on a proportion of those efficiencies to our customers via reduced charges. In 2015/16, we outperformed our cost allowances by 25% with the

customer benefit being £92m. We did this at the same time as delivering improvements to the condition and capacity on the network as measured by the Health Index and the Load Index. The Health Index monitors the physical condition of the network and we aim to deliver 12.5% of the agreed target each year. This year, on average, we have achieved this across our three licensed networks. On our London and South Eastern networks, where our delivery was marginally below the targeted 12.5%, we are confident that our expenditure for the remainder of RIIO-ED1 will address this minor shortfall. We monitor the capacity of our network via the Load Index. We have a minimum target level for the load index for 2023 which we must not exceed. In 2015/16 our networks were on average 22% below the pro-rated 2015/16 target.

We expect to introduce innovations that will enable us to outperform the cost allowance set by Ofgem. Over the RIIO-ED1 period we expect this outperformance to be approximately 15%, while still delivering all of our commitments to our stakeholders. Delivering this outperformance will result in customer savings of £409m over RIIO-ED1.



**25%**  
In 2015/16 we outperformed our cost allowances by 25%

## Expenditure analysis

£m (2012/13 prices)	Eastern Power Networks				London Power Networks				South Eastern Power Networks				UK Power Networks			
	Actual	Allowance	Difference	Percentage difference	Actual	Allowance	Difference	Percentage difference	Actual	Allowance	Difference	Percentage difference	Actual	Allowance	Difference	Percentage difference
2015/16 expenditure	265	332	67	20%	178	248	70	28%	163	223	60	27%	606	803	197	25%
RIIO-ED1 expenditure	2,175	2,536	361	14%	1,523	1,771	248	14%	1,455	1,722	267	16%	5,153	6,029	876	15%

# Value for money

continued

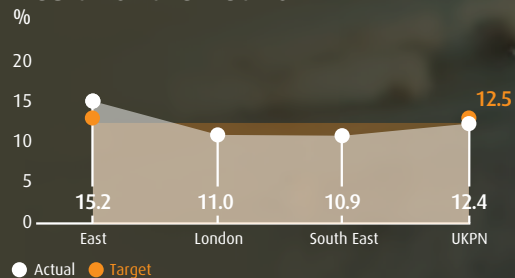
## ED1SON Alliance: working together

As well as looking for savings for individuals, we are also pursuing other strategic ways to save costs. We established the ED1SON Alliance in 2015 to work with infrastructure contractors to improve the efficiency of all our processes. Our partners in this are:

- > Amec Foster Wheeler
- > Clancy Docwra
- > Morrison Utility Services
- > McNicholas

All our construction projects are now operated through the Alliance. This allows us to share and embed best practice in collaboration with our Alliance partners to continue to improve efficiency. We have a single, robust way of working across the delivery of all our major construction projects.

## Health of the network\*\*



\* Based on previous methodology.  
Health indices (HI), measuring the condition of the network. The figure in the chart indicates the improvement we have made on our assets in the first year as a percentage of the overall RIIO-ED1 (eight year) target.

## Utilisation of the network as a percentage outperformance of our 2015/16 target



Load indices (LI), measuring the capacity and loading at substations. The figure in the chart indicates our position this year against the end of RIIO-ED1 target. A value of less than 100% indicates that we are ahead of the target.

# The future energy landscape

A de-centralised model

A more **flexible and agile**

energy system

The traditional model for electricity generation is set to change. In the future, everyone will have the potential to be both a producer and a consumer.

We expect soon to see the decline of the linear, top-down relationship between generators, network operators and customers and the rise of a de-centralised, multi-faceted community of power.

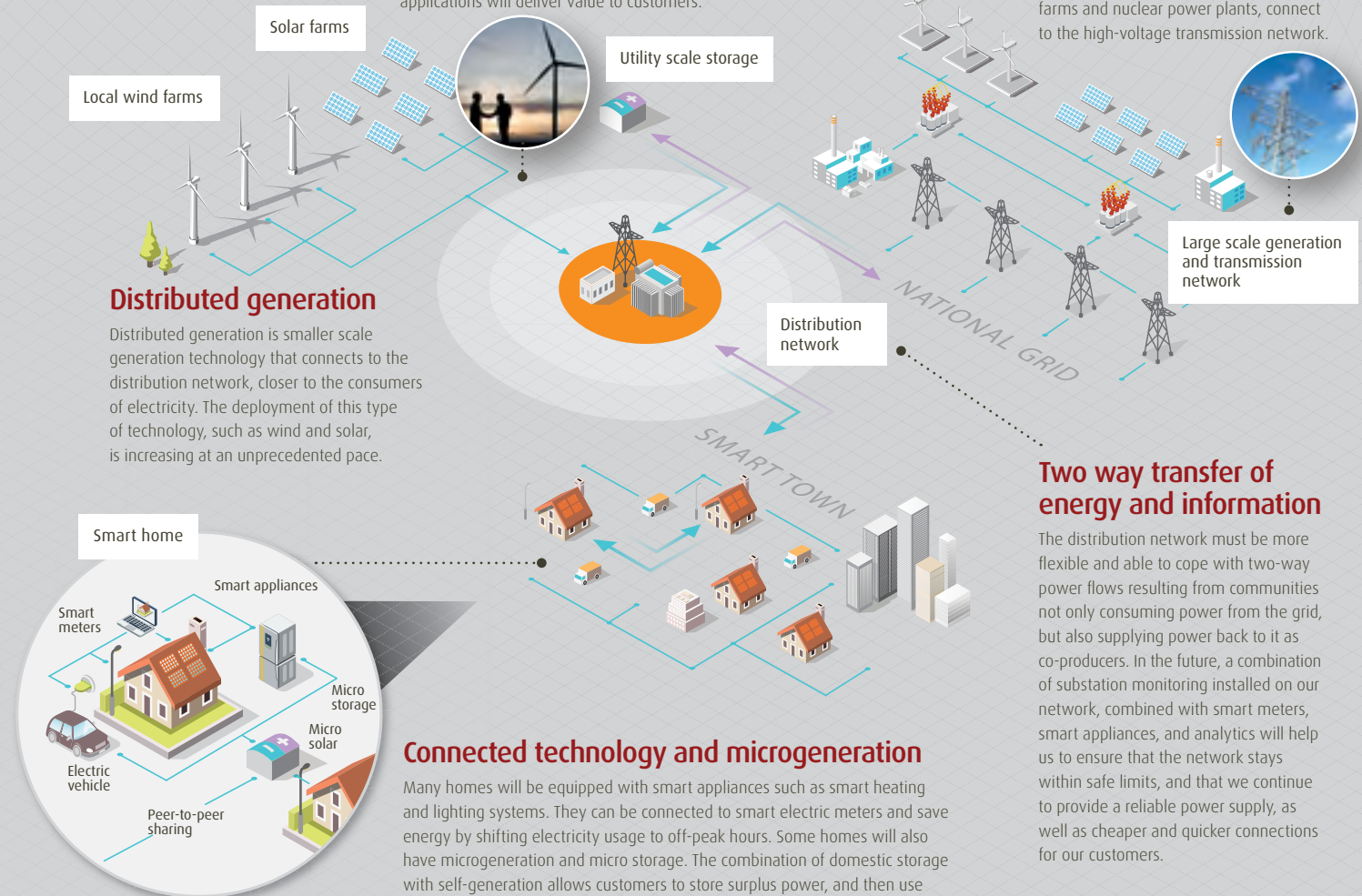
As energy exchanges become more localised, distribution network operators like us are likely to evolve into distribution system operators to ensure the system is properly coordinated to deliver secure and affordable electricity supply.

## Utility scale storage

The interest in electricity storage is increasing due to the need for greater system flexibility. Storage has the potential to be used for a range of applications, such as reducing the need to reinforce the network, balancing supply and demand, and storing renewable energy such as solar to use at night time. All of these applications will deliver value to customers.

## Power supply from the National Grid

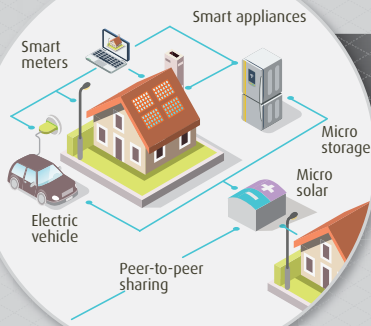
Large-scale generators with capacities typically up to hundreds of megawatts such as coal, gas, oil, large scale wind farms and nuclear power plants, connect to the high-voltage transmission network.



## Distributed generation

Distributed generation is smaller scale generation technology that connects to the distribution network, closer to the consumers of electricity. The deployment of this type of technology, such as wind and solar, is increasing at an unprecedented pace.

## Smart home



## Connected technology and microgeneration

Many homes will be equipped with smart appliances such as smart heating and lighting systems. They can be connected to smart electric meters and save energy by shifting electricity usage to off-peak hours. Some homes will also have microgeneration and micro storage. The combination of domestic storage with self-generation allows customers to store surplus power, and then use it at peak times in order to reduce bills. We are also seeing growth in electric vehicles, which will lead to increased peak demand on the network. Finally, peer-to-peer trading, which allows consumers to trade with each other and share energy at a local level, will play a bigger role in the industry.

## Two way transfer of energy and information

The distribution network must be more flexible and able to cope with two-way power flows resulting from communities not only consuming power from the grid, but also supplying power back to it as co-producers. In the future, a combination of substation monitoring installed on our network, combined with smart meters, smart appliances, and analytics will help us to ensure that the network stays within safe limits, and that we continue to provide a reliable power supply, as well as cheaper and quicker connections for our customers.



# Key contacts

## General enquiries

0800 029 4285

## Emergencies or power cuts (24 hours a day)

New 3-digit number: **105**

or 0800 31 63 105

Please note these numbers are free to call from mobile phones

## Text message updates during a power cut

To keep updated if you have a power cut in your area text 'Power' followed by your postcode, e.g. Power IP3 6QX to 80876

## Connection services

0845 234 0040

## Media enquiries

0330 159 1712



A full list of our contact details can be found at:  
[www.ukpowernetworks.co.uk](http://www.ukpowernetworks.co.uk)

## UK Power Networks Holdings Limited

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[www.ukpowernetworks.co.uk](http://www.ukpowernetworks.co.uk)

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