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Introduction

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Future energy



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Our vision and values

Our vision

To be consistently the best-performing Distribution Network Operator in the UK from 2015/16 to 2018/19

We will achieve this by demonstrating industry leadership in the three areas below:



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



- > The most reliable networks
- > The most satisfied customers
- > The most innovative
- > Deliver on our commitments
- > The most socially and environmentally responsible



> 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 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, socially and environmentally aware manner.

Unity

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

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Chief Executive's introduction



2017/18 was another strong year for UK Power Networks, with improvements in performance across a number of areas.

A key element of that performance is our progress against the 77 commitments we promised to deliver over the current price control period, known as RIIO-ED1, which covers the period April 2015 to March 2023. I am pleased to report that we continue to make good progress. Seventy one of the commitments are graded as green; that's one more than last year. This means that 92% of the commitments have both met their annual target and remain on track to be fully delivered by the end of RIIO-ED1. We have four commitments classified as amber. Therefore, after three years of the price control, we are slightly behind schedule on these projects, but believe this to be recoverable, i.e. to become green, over the remainder of the price control period. There are two commitments graded as red this year because we have failed to meet the 2017/18 targets we set ourselves. These relate to the length of overhead line we have undergrounded and the enforcement notice we received from the Health and Safety Executive (HSE). To address the former we are working with our external stakeholders, who determine which overhead lines we underground, on the work programme in this area for the remainder of RIIO-ED1. With respect to the latter, immediate remedial actions have been put in place and the enforcement notice we received from HSE was lifted in March 2018.

Safety is always our number one priority. Ensuring the safety of our employees, our contractors and the general public is paramount for us. That is why we are particularly pleased, this year, to have delivered our best ever safety performance and maintained our industry-leading safety position.

We recognise that as a provider of an essential service we occupy a privileged position in society. We appreciate that when our customers experience a power cut this can be distressing for them, particularly for our customers who are in vulnerable circumstances. For those in particular, we recognise that providing timely and accurate information helps reduce these concerns. To facilitate this we have ensured that our customers have a wide range of communications channels available with which to contact us. Our new power cut website is an example of this. The site was designed in conjunction with our customers to ensure that it meets their needs. We are proud that our continued focus on improving the service we give our customers has resulted in our highest ever customer satisfaction score of 87%.

We aim to deliver services for our customers in the most efficient way possible. This laser like focus on spending every £1 efficiently means we have delivered £205m of customer savings over the first three years of RIIO-ED1. This means that we have an annual domestic customer charge of £69.79 (2012/13 prices), which is the lowest in the industry.

We continue to focus on engaging and involving our customers and stakeholders in our journey and transition to becoming a Distribution System Operator and educating customers on how to take advantage of new technologies and other opportunities in the market place.

This annual RIIO-ED1 commitment report sets out our progress on each of our 77 commitments. It also provides our latest view on the future energy landscape and how customers may interact with this new world of energy generation and supply.

Bannel

Basil ScarsellaChief Executive Officer

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2017/18 performance snapshot



UK Power Networks

Total expenditure £m (2012/13 prices)

707.5

Total expenditure as a percentage of Ofgem cost allowance %

90

Unrestricted domestic tariff charge (not including domestic customer rebate) £ (2012/13 prices)

69.79

London Power Networks

Total expenditure £m (2012/13 prices)

209.3

Total expenditure as a percentage of Ofgem cost allowance %

91

Unrestricted domestic tariff charge (not including domestic customer rebate) £ (2012/13 prices)

59.63

Eastern Power Networks

Total expenditure £m (2012/13 prices)

307.6

Total expenditure as a percentage of Ofgem cost allowance %

94

Unrestricted domestic tariff charge (not including domestic customer rebate) £ (2012/13 prices)

70.37

South Eastern Power Networks

Total expenditure £m (2012/13 prices)

190.6

Total expenditure as a percentage of Ofgem cost allowance %

83

Unrestricted domestic tariff charge (not including domestic customer rebate) £ (2012/13 prices)

81.12

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2017/18 performance snapshot

continued

Eastern Power Networks

Reliability

Customer Interruptions¹

(unweighted, including exceptional events)

51.9

Customer Minutes Lost²

(unweighted, including exceptional events)

46.3

Customer Interruptions¹

(unweighted, excluding exceptional events)

46.8

Customers Minutes Lost²

(unweighted, excluding exceptional events)

37.3

Connections

Time to Quote (LVSSA) days

7.2

Time to Connect (LVSSA) days

43.2

ICE scheme penalties incurred £m (2012/13 prices)

0

London Power Networks

Reliability

Customer Interruptions¹

(unweighted, including exceptional events)

14.0

Customer Minutes Lost²

(unweighted, including exceptional events)

16.4

Customer Interruptions¹

(unweighted, excluding exceptional events)

14.0

Customers Minutes Lost²

(unweighted, excluding exceptional events)

16.4

Connections

Time to Quote (LVSSA) days

5.7

Time to Connect (LVSSA) days

41.0

ICE scheme penalties incurred £m (2012/13 prices)

0

South Eastern Power Networks

Reliability

Customer Interruptions¹

(unweighted, including exceptional events)

49.3

Customer Minutes Lost²

(unweighted, including exceptional events)

36.5

Customer Interruptions¹

(unweighted, excluding exceptional events)

45.7

Customers Minutes Lost²

(unweighted, excluding exceptional events)

35.4

Connections

Time to Quote (LVSSA) days

5.8

Time to Connect (LVSSA) days

36.5

ICE scheme penalties incurred £m (2012/13 prices)

U

UK Power Networks

Reliability

Customer Interruptions¹

unweighted, including exceptional events)

40.4

Customer Minutes Lost²

unweighted, including exceptional events)

35.1

Customer Interruptions¹

(unweighted, excluding exceptional events)

37.2

Customers Minutes Lost²

(unweighted, excluding exceptional events)

30.8

Connections

Time to Quote (LVSSA) days

6.5

Time to Connect (LVSSA) days

40.7

ICE scheme penalties incurred £m (2012/13 prices)

0

- 1 Customer Interruptions (CI) are the number of customers interrupted per 100 customers on our network
- 2 Customer Minutes Lost (CML) are the average length of time customers are without power, for power cuts lasting three minutes or longer.

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2017/18 performance snapshot

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Eastern Power Networks

Customer Satisfaction

Overall Broad Measure of Customer Satisfaction (BMOCS) score out of 10

8.73

Social Obligations

Individual stakeholder engagement & consumer vulnerability score out of 10

7.25

Additional qualitative summary information on:

Lost Time Incident Frequency Rate (LITFR)³ LTI/100,000 hours worked

n/a

Environmental impact Business Carbon Footprint (tCO,e)

29,721

Innovation spend by each licensee £m (2012/13 prices)

3.05

London Power Networks

Customer Satisfaction

Overall Broad Measure of Customer Satisfaction (BMOCS) score out of 10

8.75

Social Obligations

Individual stakeholder engagement & consumer vulnerability score out of 10

7.25

Additional qualitative summary information on:

Lost Time Incident Frequency Rate (LITFR)³ LTI/100,000 hours worked

n/a

Environmental impact Business Carbon Footprint (tCO,e)

16,137

Innovation spend by each licensee £m (2012/13 prices)

2.68

South Eastern Power Networks

Customer Satisfaction

Overall Broad Measure of Customer Satisfaction (BMOCS) score out of 10

8.74

Social Obligations

Individual stakeholder engagement & consumer vulnerability score out of 10

7.25

Additional qualitative summary information on:

Lost Time Incident Frequency Rate (LITFR)³
LTI/100.000 hours worked

n/a

Environmental impact Business Carbon Footprint (tCO,e)

18,569

Innovation spend by each licensee £m (2012/13 prices)

2.41

UK Power Networks

Customer Satisfaction

Overall Broad Measure of Customer Satisfaction (BMOCS)¹ score out of 10

8.74

Social Obligations

Individual stakeholder engagement & consumer vulnerability² score out of 10

7.25

Additional qualitative summary information on:

Lost Time Incident Frequency Rate (LITFR)³ LTI/100.000 hours worked

0.02

Environmental impact Business Carbon Footprint (tCO,e)

64,427

Total innovation spend £m (2012/13 prices)

8.14

- 1 Avera
- 2 Score is given to group but applied to each licence area
- 3 Reported at a group level regulated business only

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Our operations

UK Power Networks owns, operates and manages three of the 14 regulated electricity distribution networks in Great Britain. Our networks deliver electricity to 18 million people (8.3 million homes and businesses); 28% of the United Kingdom's population.

We are purely a 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
- > Support our fuel-poor and vulnerable 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

Eastern Power Networks (EPN)

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

London

London Power Networks (LPN)

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 (SPN)

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



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Customer satisfaction

Our vision is to deliver excellent service to all our customers – whatever their needs – first time, every time.

We want to be a leader in customer service. We constantly look for ways to receive feedback from our customers, so that we understand their needs and expectations.

Guided by our customers, we've introduced a number of improvements for them, including:

- > Implementation of more and varied channels so that customers have greater choice when they contact us.
- Ongoing training and coaching for our people, to drive a service-centric culture.
- > Definition of our commitments to our customers, so they know the level of service to expect from us.

Customer feedback will continue to be what matters most in guiding us when we build new and better service offerings.
Customers want increasingly personalised service in a low carbon, smart meter, connected world. We want to make sure we understand and meet the needs of all our customers, particularly those in the most vulnerable circumstances

Ultimately, our customers want to be able to contact us easily or, ideally, for us to proactively contact them when we need to. They want any interaction with us to be easy and effortless. We've invested in customer service in these areas. We aim to send text messages to customers as soon as possible, once we're aware of a power cut and update our website to keep customers informed.

In 2017/18, we sent over 3 million proactive text and voice messages to customers. We've developed our website, so that when customers register a power cut online, they can track what is happening to resolve the issue, much like tracking the delivery of a parcel online. We've documented what our customers have told us would be their ideal experience with us. In 2017/18 we had 3.2 million customers visit our website. We've also made sure that colleagues across the business understand these customer journeys and their part in delivering excellent customer service. What's more, we linked performance targets to how well we're delivering the ideal customer experience. We want to embed our customer service standards so they become part of our company's DNA.

We continue to look for opportunities to make it easier for our customers to engage with us. We want to personalise our approach so it meets each customer's own particular requirements. We want this to work regardless of how a customer chooses to engage with us: online, on the phone, or in person.

This year, we are pleased to report that all our output commitments in customer satisfaction have turned green. In the RIIO –ED1 business plan we set ourselves a target to answer calls from customers within five seconds and resolve 70% of all customers' complaints within one day. Investment in our IT systems, further enhancements in our proactive communication to customers and the provision of self-service options available to customers have enabled us to deliver an average time to answer calls of 3.1 seconds. This is compared to 7.1 seconds last year. Our complaints performance continues to improve, with 77% of complaints now resolved on the first day, compared to 67% last year.

We are delighted that we have made significant improvements in our customer satisfaction scores. This year we have achieved our highest-ever satisfaction score of over 87%.

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

Customer Satisfaction Scores				
	Power cuts	General Enquiries	Connections	2017/18 Broad measure of customer satisfaction (weighted average across the regions)
Eastern Power Networks	8.88	9.23	8.43	8.73
London Power Networks	8.77	8.84	8.70	8.75
South Eastern Power Networks	8.79	9.25	8.50	8.74

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Future energy

Customer satisfaction

continued

No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 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.	Our Customer Satisfaction Survey scores continue to improve and exceed the targets we set ourselves for RIIO-ED1. We have achieved scores out of ten of 8.73, 8.74 and 8.75 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.	Further enhancements in our proactive communication to customers and the self service options available to customers has enabled us to deliver an average time to answer calls of 3.1 seconds, compared to 7.1 seconds last year.		
3	Resolve 70% of all customer complaints within one day and 95% within 31 days.	Complaints performance continues to improve, with 76% of complaints now resolved on the first day, compared with 67% last year and 95% resolved in 31 days compared with 94% last year.		
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 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, helping to minimise the impact of power cuts to our customers.		
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, our online interactive map, web chat and we were the first to launch video chat and Facebook Messenger. Additionally, we are launching Sign Live for our deaf and hard of hearing customers and have also launched a new home page on our website which features a new power cut tracker.		
7	Proactively contact 100% of registered vulnerable customers to offer support if they are without power.	When power cuts occur and we are made aware of the outage, we contact all registered vulnerable customers via our automated SMS and Voice message service, as well as with agent to customer proactive calls, which occur between 8am and 11pm. Proactive updates are provided to customers 24/7. We have more than 1.4m customers registered on our Priority Services Register.		

Ke

- 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

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Customer satisfaction

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No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 status
8	Continue with our three Critical Friends Panels per DNO per annum.	Our enhanced stakeholder engagement programme, which is endorsed by our Critical Friends Panels, this year delivered nine Critical Friends Panels, three in each DNO, six roadshows, three focus groups, five forum meetings and three CEO Panel meetings.		
9	Publish and review a UK Power Networks business plan update every year.	This document, the RIIO-ED1 Business Plan Commitment Report, 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.		
10	Publish an annual strategic development statement for Central London.	We published our second update to the Central London Strategy covering the 2016/17 regulatory year which can be found <u>here</u> . We will publish an update covering the 2017/18 year in December 2018.		
11	Review our economic assumptions with our Critical Friends Panels each year.	We discussed our economic assumptions with stakeholders at this year's Critical Friends Panels. In particular we sought our stakeholders views on both housing and GDP assumptions as well as the overall scenario framework.		
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.	We held four Distributed Generation forums in 2017/18: we held two ourselves, one was the National forum and the other was the Joint forum with SSE. Our engagement with these customers continues to help 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 (which can be found here) gives details of all the improvements we have made to our business processes as a direct result of stakeholder feedback.		

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Customer satisfaction

continued

Customer service is personal so we're developing a culture where our people not only understand customers' needs and priorities. They also recognise how their own actions affect the service we deliver. Our Electric Avenue video series brings this to life.



We have

22

channels

that enable customers to contact us. We added three new channels in 2017/18

Electric Avenue

Our customer satisfaction score rose again this year, from an already high base. This continuing improvement is thanks in part to the way we have built on our service culture this year. **Think Customer**, our customer service philosophy, is now firmly embedded in our way of working. Building on this in 2017/18, we launched an award winning internal animated soap opera for our staff called Electric Avenue. This series features our employees helping the fictional characters in the soap opera, demonstrating the impact that different events, such as planned and unplanned power cuts, have on them. It reinforces the needs of our customers and the high standards they expect from us. It gives our employees a better understanding of why we have service standards and the commitments we make to our customers, and how they contribute to delivering a great experience to our customers. Every member of staff has an opportunity to see the soap opera. Since the launch of Electric Avenue, we have seen a marked increase in both our customer service scores and in employee engagement.



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Reliability and availability

UK Power Networks remains one of the most reliable Distribution Network Operators in Great Britain and our London network remains the most reliable network.



In 2017/18 we reduced the number of unplanned power cuts that customers experienced across our three networks to their lowest ever level, 19% below those of 2012/13. We have also reduced the length of time customers were without power by 24% since 2012/13.

The measures are referred to as unplanned Customer Interruptions (CI) and unplanned Customer Minutes Lost (CML) respectively.

We have reduced CIs and CMLs thanks to improvements in our operations such as remote control of our switches and automation. Both initiatives mean we can respond more quickly to power cuts as they help us to isolate faults and restore supplies remotely. That speeds things up as it means we don't have to wait for an engineer to travel to the site.

We now have a Primary Outage Restoration Tool (PORT), which automatically switches high voltage circuits from an affected primary substation to a nearby one. During the 'Beast from the East' storm in February 2018, PORT ran 14 times and this kept many of our customers' lights on, even though the network was hit by extreme weather.

Percentage improvement since 2012/13 in network reliability and availability					
	Customer Interruptions	Customer Minutes Lost			
Eastern Power Networks	14%	12%			
London Power Networks	42%	49%			
South Eastern Power Networks	14%	16%			
UK Power Networks	19%	24%			

- 1. 2012/13 is the base year for measuring performance improvement
- 2. This relates to power cuts that are unplanned
- 3. Customers Interruptions (CI) are the number of customers interrupted per 100 customers on our network
- 4. Customers Minutes Lost is the average length of time customers are without power, for power cuts lasting three minutes or longer

We were the first company to deploy an Automatic Power Restoration System (APRS) on our London network. This technology is now also embedded in the operation of our Eastern and South Eastern networks, where it has been a key contributor to our performance improvement.

CMLs in 2017/18 increased slightly from 2016/17. We have plans in place, such as automation and PORT, to continue to reduce CIs and CMLs in future years.

We have also developed a tailored approach to improving reliability in Greater London. We have undertaken an analysis of the LV network, looking at pockets of Greater London where we have higher than normal levels of CI and CMLs and have initiated a programme of LV schemes to improve reliability. This programme aims to drive performance improvements by replacing unreliable assets and/or reconfiguring the network.

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Reliability and availability

continued

No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 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).	LPN continued to be the best performing network for both Customer Interruptions (CIs) and Customer Minutes Lost (CMLs). There were only 14 unplanned CIs and 16 unplanned CMLs. This is an improvement of 42% and 49% respectively since 2012/13.		
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).	There were 47 unplanned Customer Interruptions per 100 customers (CIs) in EPN in 2017/18. This represents a 14% improvement since 2012/13. SPN reduced unplanned CIs to 46, which is also a 14% 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 2017/18, there were 37 unplanned Customer Minutes Lost (CMLs) in EPN and 35 in SPN. This performance represents an improvement of 12% and 16% respectively since 2012/13. Our current ED1 to date CML average for both EPN & SPN is better than the ED1 target average and we remain on track to deliver 35 CMLs by the end of the period.		
18	Maintain the health of the network during RIIO-ED1 as measured by the health index, at least at the end of DPCR5 levels.	Since the submission of our RIIO-ED1 business plan, the Common Network Asset Indices Methodology was introduced across all DNOs in Great Britain and our target has been reset to be as challenging as the original. We remain on target to deliver 100% of this new Health Index 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. To date in RIIO-ED1 there were 13 highly rated sites in EPN, 12 in SPN and six 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 2017/18 we protected 11 substation sites from the risk of flooding, which puts us ahead of our target for this regulatory year. The protection of three further sites was already underway before the end of this regulatory year so there will be a strong start to delivery in year four. We are on target to protect 78 sites in RIIO-ED1.		
21	Reduce the number of 12 hour failures by more than 30%.	We aim to restore all supplies within 12 hours for unplanned power cuts. In 2017/18 13,263 people experienced a power cut longer than 12 hours, which is a reduction of 44% 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. In 2017/18 there were 7,749 and 2,856 worst served customers in EPN and SPN respectively. Two schemes in EPN and one scheme in SPN were completed this year and a further three in EPN and six in SPN are planned for next year. All worst served customer schemes delivered since 2012 have resulted in an average reduction of 76% in Customer Interruptions.	•	•

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

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Reliability and availability

continued

Duration of power cuts

Our customers rely on us to do our best to keep the lights on and to do so safely and carefully.

Lidar

Light Detection and Ranging (LiDAR) uses laser-frequency light to detect objects and distances in 3D. We use LiDAR to identification trees and other vegetation near our overhead power lines that could cause power cuts. That way we can identify those trees and shrubs that pose the most risk, and remove them.





A customer connected to our network will be off

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Environment

Protecting the environment by minimising our impact.



As a key player in the power industry, we take our responsibility towards protecting the environment seriously.

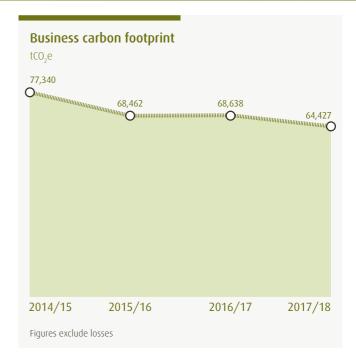
We address our environmental responsibilities on a number of fronts. Firstly, we are leading the drive towards a low carbon economy. Innovations in this field will contribute to a reduction in everyone's carbon footprint in our area. Secondly, we want to run our business in a way that minimises the impact it has on the environment. We do this by focusing on our own Business Carbon Footprint (BCF) as well as working on other areas such as noise reduction, waste management etc. that impacts the environment. Finally, we want to be lead by example in the deployment of low carbon technology as a part our everyday business.

In our RIIO-ED1 Business Plan we set ourselves an overall target to reduce our BCF by 2% for each year of the RIIO-ED1 price control period. Three years in, our target was a 6% reduction against our baseline year of 2014/15 and we are pleased to report a reduction of 16.7%, significantly ahead of this target. This also represents a 6.1% reduction on the previous year's figures. The biggest element of our BCF (42%) is the fuel we use in our fleet of over 3,000 operational vehicles and those of our contractors.

We have reduced the amount of fuel we used in 2017/18 by over a million litres compared to 2014/15. This was achieved through a combination of the introduction of newer, more fuel-efficient vehicles and the roll-out of 'toughpads' bespoke devices to all field staff. Read more on page 17.

We are committed to reducing fluid from our cables and while we have missed our annual target this year, our ongoing replacement programme has decommissioned some of our worst performing circuits. We are confident that our investment and operational plans will bring our fluid filled cable leakage back under the target in 2018/19.

In our RIIO-ED1 Business Plan, we set ourselves a target to underground the equivalent of 80km of HV overhead line in SPN and 96km of HV overhead line in National Parks and Areas of Outstanding Natural Beauty (AONB). We've been working closely with relevant authorities and stakeholders who identify and prioritise potential undergrounding schemes. To date in RIIO-ED1 we have removed 8.2km of overhead lines in SPN and 3.7km in EPN. We continue to work with environmental experts and stakeholders representing the National Parks and Areas of Outstanding Natural Beauty (AONB) and now have visibility of their priorities for the remainder of the price control period.



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Environment

continued

No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 status
23	Reduce our Business Carbon Footprint by 2% per annum.	Our Business Carbon Footprint in 2017/18 was $64,427 \text{ tCO}_2\text{e}$, a 17% reduction compared to 2014/15 levels, which is our baseline year. This is ahead of our target for the year of 72,701 tcO $_2\text{e}$.		
24	Continue to divert 70% of office and depot waste from landfill* and recycle 98% of streetworks spoil.	In 2017/18, we diverted 83.4% of our waste from landfill and we have increased the recycling percentage of our streetworks spoil to 99.3%. We continue to work to maintain this performance over the RIIO-ED1 period.		
	* The word "recycle" has been amended to "divert from landfill", to more accurately reflect UK Power Networks' long established process of diverting 70% of office and depot waste from landfill.			
25	Maintain sulphur hexafluoride (SF6) leakage at less than 0.2% as a proportion of SF6 in service.	We achieved the target of emitting less than 0.2% of the total amount of SF6 in service. SF6 leakage was 0.14% of the SF6 in service in 2017/18. We continue to aim to minimise the leakage of SF6, in order to reduce the impact on the environment.		
26	Reduce cable fluid leakage of 207,000 litres by 2% per annum.	The fluid filled cable leakage in 2017/18 was 211,068 litres, which is above the annual target of 194,827 litres. As part of our ongoing replacement programme we have decommissioned some of the worst performing circuits. In addition we have increased our operational activity to manage leaks when they do occur. This is already showing improvements and we expect this to be reflected in future performance.		
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.	To date in RIIO-ED1 we have removed 8.2km of overhead lines in SPN and 3.7km in EPN. It is unlikely that we will deliver the km stated in the original target. We will however, continue to engage with stakeholders through steering groups to identify areas for undergrounding.		
28	Innovation expenditure of 0.5% of allowed revenues and win largest market share of the NIC competition.	In 2017 we spent £7.3 million (at 2017 prices) on innovation projects. This equates to 0.5% of allowed revenue. At the end of 2017, we had won the highest market share of Network Innovation Competition (NIC) funding, inclusive of the partnership with National Grid on Power Potential. Our Active Response project was successful and will contribute to our RIIO-ED1 portfolio. We continue to bid into the funding competition with our EV fleet project Optimise Prime in August 2018. We continue to invest in innovation projects where there is potential to achieve benefits for our customers. For example in the first three years of RIIO-ED1 we have delivered £149m of benefits through use of innovative solutions.		•
29	Investigate all noise issues and address all non-compliant sites.	Thirty-five noise enquiries were received in the 2017/18 regulatory period, all of which were investigated. Five mitigation schemes were completed in the year, including design and installation of an innovative screen in our substation at Moscow Road, London. Other mitigations included bespoke noise screens and transformer replacement.		

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Environment

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We track, measure and look for ways of reducing all the carbon emission that we produce.

This includes the way we light our buildings, upgrading to the most fuel efficient vehicles and seeking new ways of reducing business mileage.

reduction in the Business Carbon Footprint
since our baseline year of 2014/15

Toughpad roll out

The biggest element of our BCF (42%) is the fuel we use in our fleet of over 3,000 operational vehicles and those of our contractors. We have reduced the amount of fuel we used in 2017/18 by over a million litres compared to 2014/15. This was achieved through a combination of the introduction of newer, more fuel-efficient vehicles and the roll out of 'toughpads', bespoke electronic devices, to all field staff. Historically our engineers had to drive to and from local depots to obtain cable maps and work packs for each job. The implementation of electronic workbooks allows this information to be obtained remotely, eliminating the need to drive back to the office. This has significantly contributed to reducing the amount of fuel consumed.





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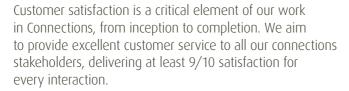
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Connections

Our Connections' vision is: "To offer a range of connection solutions that serve our customers' diverse needs, encouraging choice and supporting economic growth in the communities we serve."



We have worked with our stakeholders to shape our service development plan and we encourage them to challenge our approaches to service improvement, engagement and delivery of work. For example, stakeholders told us that they thought it should be easier to find out if faulty street lighting had been reported to us and when it was scheduled to be fixed. Working with more than 30 third party street light engineers, we developed an interactive fault map that shows if faulty lights have been reported to us and when the repair is scheduled. The map has been visited more than 26,000 times since its launch.

We are committed to supporting the UK to meet its low carbon and clean air targets. Since building Britain's first grid-scale storage facility in 2015, UK Power Networks has been at the cutting edge of enabling energy storage. Since 2015 we have received over 1,300 storage connection applications. This year we connected the country's largest storage facility, a 40 MW battery in Kent, which will provide 20% of National Grid's 200 MW Emergency Frequency requirement.

We significantly improved our average time to connect for both low voltage single and multiple services and now have a green status on this commitment. In 2017/18, we achieved an average time from quote acceptance to connection of 41 days for low voltage single services and 47 days for low voltage multiple services. This is compared to 54 days and 65 days respectively in 2016/17. One of our RIIO-ED1 Connections commitments was to offer two-hour time-banded appointments to customers for site visits. We are working on ways to track whether or not appointments are kept. Until this work is complete, we continue to classify this target as amber, even though we are offering two-hour time banded appointments. We will classify it as green when we are able to verify how often these appointments are kept.

Making our streets safer

Stakeholders told us they wanted visibility of the status and anticipated date of completion of faulty street lights. To address their feedback, UK Power Networks launched the first street lighting fault map.

Working with street lighting engineers, we developed an interactive fault map that shows if faulty lights have been reported to us and when the repair is scheduled.



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Connections

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No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 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 2017/18 we achieved an average time to quote of 6.5 days for low voltage single services and 10.2 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 2017/18 we achieved an average time from quote acceptance to connection of 40.7 days for low voltage single services and 47.3 days for low voltage multiple services.		
32	Achieve in excess of 99% compliance with our Guaranteed Standards of Performance (GSoP) targets.	In 2017/18 we achieved 99.9% 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: Submission of service requests, Quotations and estimates, Service request and job delivery tracking, Payment, Appointment booking.	The Connection Services customer portal is currently under review as part of company-wide online service offering. Its implementation date is to be confirmed by the end of 2018.	•	
34	Integrate Flexible Plug and Play connection offers (as per our Low Carbon Network Fund Project) into business-as-usual by Q2 2015.	Rollout is progressing as planned; we opened up Cambridgeshire, Great Yarmouth, Sussex and Kent last year. Following feedback from customers, we are planning to accelerate the Flexible Distribution Generation (FDG) rollout from 2021 to 2019. We have published the next two years' roadmap for the FDG connections rollout on UK Power Networks website.		
35	Engage regularly with other connections stakeholders on a frequency agreed with them.	We engage with our connections stakeholders through a variety of channels throughout the year. More detail can be found in our Work Plan and Incentive on Connections Engagement (ICE) reports here .		
36	From 2014, agree and publish a Service Development Plan with associated key performance indicators.	We published our Incentive on Connections Engagement (ICE) plan in May 2017. This can be found <u>here</u> .		
37	Publish quarterly updates to communicate progress against the service development plan.	Quarterly ICE updates for 2017/18 can be found <u>here</u> .		
38	Review and revise the plan annually in agreement with stakeholders.	We published our ICE Workplan to Ofgem on 30 April. It can also be found <u>here</u> .		

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No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 status
39	Publish an annual progress update to Ofgem and stakeholders.	We publish voluntary quarterly Incentive on Connections Engagement reports. We also publish a formal mid-year review based on feedback from Ofgem and customers. The reports can be found here .		
40	Complete an annual independent audit of our achievements against the agreed service development plan.	AccountAbility conducted an audit of our strategy, process and outputs. They confirmed the efficacy of our process and the accuracy of the findings we presented in our report. They validated this with customers. Their report can be found <a example.com="" here"="" href="https://example.com/here/beta-beta-beta-beta-beta-beta-beta-beta-</th><th></th><th></th></tr><tr><th>41</th><th>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.</th><th>We held nine major forums, eight Scrutiny Panels and 10 technical working groups throughout the year. These are all described in our Work Plan, our quarterly updates and our Looking Back and Looking Forward report published in May 2018. The report can be found here .		
42	Offer account management to any business/commercial customer who requests this service. Develop more 'preapplication' support for customers to enable them to make informed decisions on their schemes.	We continue to offer an Account Manager to anyone who requests one. We continue to offer Connections Surgeries for all customer groups. They can be booked <u>here</u> . In 2017/18 we ran 29 'Ask the Expert' surgeries which customers have found useful and received a customer satisfaction score of 9.5/10.		
43	Extend our 'Ask the Expert' service to include phone, web chat and face-to-face options.	Our pre-application support services are now available across all channels as business as usual. The outcome was reported in our Looking Back report in 2017/18 here .		
44	Publish 'heat maps' to provide an overview of current network capacities by location.	We have now extended our heat maps to show constraints on the LPN network. The heat maps are available <u>here</u> .		
45	Provide access via a web portal to cable diagrams, allowing customer access to up to date information.	Customers have access to the web portal LineSearch Before You Dig to allow them to download our maps. In addition, Independent Connection Providers now have direct web access to Netmap Webview.		

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No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 status
46	Extend the online price illustrator to include all market segments and provide indicative timescales in addition to cost illustrations.	UK Power Networks has migrated Connections to a new mobile-responsive website. The new price calculator for Small Services customers will go live in October 2018. The price calculator for business customers will be developed subsequently. This will go live at the beginning of 2019. We continue to work with stakeholders involved in larger connections projects to provide them with a range of pre-application support options, such as surgeries or use of our Ask the Expert service. These assist them as they progress their application.		•
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.	All market segments covered by the ICE Report are now included as set out in our ICE Looking Back report for 2017/18. You can read this report here .		
48	Introduce longer office hours for our contact centre: a) 08.00 to 20.00 weekdays; (b) 09.00 to 16.00 Saturdays.	Connection Services customers who call out of standard out of office hours are handled by customer service advisors 24/7.		
49	Offer two-hour time-banded appointments for site visits.	We now offer two-hour time-banded appointments to customers for site visits. We are in the process of implementing a system that will enable us to measure how often these appointments are kept.		
50	Schedule work delivery across a wider working window to include evenings and weekends.	Delivery of new connections to the network are available 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.	Convertible quotes have been issued to connections customers since October 2015, making it easier for them 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 that provide independent connections and will seek to extend the scope of these arrangements further where possible.		
53	HV jointing to existing networks to include all associated planning and operational activities.	As of October 2015, third party connections providers are able to carry out all associated activities of HV jointing to existing networks. This ensures 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 a greater choice of provider for a wider range of activities relating to their connection.		

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Connections

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The energy sector is going through a period of unprecedented change. Digitisation and automation are creating markets for existing connected customers as well as new disruptors and innovators.



89%
overall customer
satisfaction
measured by telephony
satisfaction survey

Developing 'How to' video and guides based on customer feedback

Our customers told us that they would welcome the use of video as a way of explaining UK Power Networks' processes and/or to provide information and greater understanding of UK Power Networks. Following this, a number of internal stakeholders worked on designing two videos to explain the end-to-end connection process. Stakeholders were invited to comment on the outline ideas for the videos and following a series of drafts and amendments the videos were published in March 2018.



UK Power Networks Application & Design – Medium to Large Developments

This video provides an overview of UK Power Networks application and design process for new connections, or alterations to existing connections, for medium to large development projects.



UK Power Networks Work Delivery – Medium to Large Developments

This video provides an overview of the UK Power Networks delivery process for new connections, or alterations to existing connections, for medium to large development projects.



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Safety

At UK Power Networks, safety is our number one priority.

In 2017/18 UK Power Networks delivered its best ever safety performance, with only three Lost Time Incidents (LTIs). The safety of our employees, contractors and the general public is paramount. Making sure that no one comes to any harm as a result of our actions or because of our equipment takes priority over any other consideration.

We start from the position that electricity can kill. We aim to create and foster a culture in which this fact is front and centre in the minds of everyone who works at UK Power Networks, and where we all take responsibility for it on behalf of the general public.

Our safety performance has once again shown improvement both in terms of incidents involving our employees and the general public. We are of course pleased to be the safest Distribution Network Operator (DNO), but we never take that for granted. We are continually looking for ways to ensure that our messages around safety are fresh and relevant. We make sure that they relate to people's experience of working with and around electricity.

In 2017/18 we also undertook a major overhaul of our employee safety campaign, Stay Safe. One element of the overhaul was to take our aim beyond zero, so that we are always thinking about ways of avoiding even the opportunity for harm. One example of this is paying particular attention to 'near misses'. Among other things, we developed a quiz that challenged people to question what did or didn't constitute a near miss. Since the campaign, we have seen a marked improvement in the quality of near miss reporting.

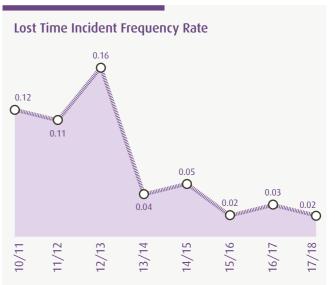
We also held a senior level summit to examine a number of serious near misses in order to ensure we captured and passed on all the lessons from them.

Our ever-improving safety record is by its nature a complex measure, impossible to attribute to individual initiatives. Nevertheless, the refreshing of our Stay Safe campaign has coincided with a further improvement of our safety performance.

In 2017/18 we launched a new public safety campaign, Be Bright, Stay Safe. It is designed to raise awareness of the potential hazards associated with the electricity network among organisations whose members work near our network equipment. We consult with a wide range of organisations such as the National Farmers Union and the Federation of Master Builders to co-design messages to ensure they are relevant and are getting through to the right people.

We continue our face-to-face engagement, paying particular attention to reaching young people with our safety messages. We also attended a number of events aimed specifically at high risk groups, such as agricultural shows and industry-arranged safety awareness days. In 2017/18, we engaged with over 350,000 people on public safety, which is 100,000 above our annual target of 250,000 people.

In 2017/18 UK Power Networks was issued with a formal notice by the HSE in relation to the replacement of ageing cutout equipment. The issue was quickly rectified and the HSE has confirmed we are now compliant with all relevant legislation.



There were only three occasions in the year where our people needed time off due to injury (called Lost Time Incidents). This resulted in a frequency rate, which is the number of incidents per 100,000 hours worked, of 0.02. This is one of the lowest in the industry.

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No.	Eight year RIIO-ED1 Output Commitment	2017/18 update	2017/18 status	2016/17 status
55	No formal notices or prosecutions by the HSE under applicable legislation.	We received an Improvement Notice on 15th November 2017 relating to management of replacement of pre-1937 fused neutral cut-outs at service terminations. Remedial actions have since been put in place and the HSE has recognised the efforts and focus expended thus far, resulting in the notice being lifted on 28th March 2018.		
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).	Since publishing our RIIO-ED1 business plan, we have implemented the Common Methodology for measuring asset risk. This methodology encourages us to focus on high safety criticality assets and we are committed to delivering the target risk reduction under this new methodology.		•
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 either being absent from work, receiving professional medical treatment or receiving first aid treatment at work. The TRI rate in 2017/18 was 0.31, which is ahead of the target of 0.50 set for the end of RIIO-ED1. We continue to work hard to ensure this great performance is maintained and improved year-on-year.		
58	Reduce the Lost Time Recordable Injuries (LTRI) 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 LTRI rate in 2017/18 was 0.02, 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.		
59	Achieve at least one year with no RIDDOR reportable lost time incidents for employees and contractors by the end of the period.	In 2017/18 there was one RIDDOR-reportable LTI relating to our regulated activities. 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.	In 2017/18 there were no RIDDOR reportable injuries to members of the public relating to our activities. The safety of the public remains a top priority for us and we continue to improve the ways we work to reduce risk associated with the work that we do.		
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.	In 2017/18 we engaged with 355,146 people through our website, school visits and other interaction with young people and the public. RIIO-ED1 to date we have engaged with 863,146 people on public safety. This keeps us on target to achieve our goal of engaging with two million children and members of the public over the RIIO-ED1 period.		

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Safety

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Safety is our over-riding priority, it outweighs all other considerations. We never forget that there are inherent dangers in working with electricity. UK Power Networks puts safety – of our employees and contractors and the general public – at the heart of what we do.

Engaged with over 355,000 people on public safety

Be Bright Stay Safe

Be Bright Stay Safe aims to reach groups that our research has identified as being at high risk. These include farmers, haulage workers, construction and excavation workers, tradespeople such as plumbers and electricians as well as people engaged in recreational activities such as kite-flying, fishing and camping. We developed a range of messages tailored to each of these audiences and distributed them through relevant communications channels including social media





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Social

We aim to power a better world for our customers, communities, employees and society by operating our business responsibly.

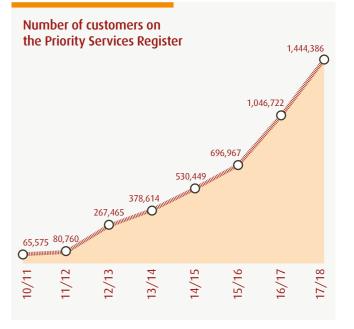
We engage with our staff and communities to provide a safe, reliable and environmentally sustainable service that serves the needs of our 8.3 million customers, especially those in vulnerable circumstances.

We continually seek to improve the performance of our network and the services we provide.

Since 2010 we have significantly improved the reliability of our network, reducing the frequency of power cuts by 42% and almost halving the amount of time they last. We recognise that, when power cuts happen, they can cause concern, especially for customers in vulnerable circumstances. We have achieved our target towards meeting our RIIO-ED1 commitment of doubling the number of customers on our Priority Services Register (PSR). We now have more than 1.4 million customers registered on our PSR. This is an increase of more than 260% since we made this commitment in 2013/14, when we had 378,614. Our PSR offers additional support to our more vulnerable customers in the event of a power cut and means we contact the customer or their named representative in a way that works for them should they experience a power cut.

Our vulnerability strategy ensures that we provide an inclusive service. For the second year running, we have been awarded the BSI standard for Inclusive Service Provision, we maintained the Action on Hearing Loss – Louder than Words Charter for the third year running and this year we achieved the AA AbilityNet standard in recognition of our web services' accessibility.

We learnt from our award-winning energywise project that working with community-based partners was the most effective way of reaching our hard-to-reach, seldom heard, customers in fuel poverty. This year we delivered energy advice and support to over 300,000 people, and our community-based partnerships provided face-to-face advice to 4,500 of our customers, helping them save over £232,000. In 2017/18 UK Power Networks worked with MyBnk to develop and pilot two innovative, energy-efficiency programmes. MyBnk is a leading financial capability charity that delivers financial education to young people in the UK. One programme targeted schools with a higher than average pupil premium (a payment to schools for pupils from low-income families) and asked the children to make five pledges to reduce their energy consumption. When combined the pledges amount to the equivalent to 1% of the income of a fuel poor household. The second programme helped young adults leaving care manage their electricity use. Half of the participants said they would reduce their electricity use by turning appliances off at the plug. Together our pioneering MyBnk programmes helped participants and their families save an estimated £28.597.



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Future energy



		2017/18	2016/17
Eight year RIIO-ED1 Output Commitment	2017/18 update	status	status
Double the number of customers on our Priority Services Register.	We now have in excess of 1.4 million registered properties on our Priority Services Register, which is an increase of more than 260% since we made this commitment in 2013/14 when we had 378,614. This means we have already achieved our goal, and we continue to work hard to ensure all customers with additional needs are identified and receive the care they need during power cuts.		•
Proactively contact all registered vulnerable customers to offer support if they are without power.	When power cuts occur, we proactively make contact with 100% of the affected registered vulnerable customers we know are affected to make sure they have the support they need until their power is restored. We currently have more than 1.4 million vulnerable customers registered on our Priority Services Register. We are working hard along with local charities and parish councils to increase the number of customers in vulnerable circumstances registered on our systems.		•
Extend our local authority joint response pilot across our geographical footprint and standardise triggers.	This is now part of our business as usual operations. We alert the local authority at the outset of more significant power cuts and work with them through to restoration of power supplies, keeping our customers informed.		
Provide every vulnerable customer an alternative high priority dedicated number.	Customers in vulnerable circumstances on our Priority Services Register have a dedicated Freephone number for them to call in case of a power cut.		
Distribute welcome packs to all new customers on the Priority Services Register.	Welcome packs are provided to all new customers on the Priority Services Register. The packs include the information these customers require to ensure that they can receive the additional support they need if they experience a power cut.		
Host two subject-specific priority issue focus groups on vulnerable customers and fuel poverty every year.	In 2017/18 we held six focus groups with relevant stakeholders regarding activities to relieve fuel poverty.		
Maintain our community fund investing £300,000 per annum.	Through Matched Funding, Team Sport Awards and charity partnership donations we have provided £346,105 funding for local community schemes and charities in 2017/18.		
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. We did this by mapping levels of unemployment, fuel poverty, customers on the PSR and other indices. This data is updated annually to ensure it is accurate. This map allows us to target energy efficiency advice and customer care to the most deprived areas.		
Publish information to targeted customers on how energy efficiency and demand-side activity can be used to manage energy consumption.	We have posted information about smart metering, directing customers to the Ofgem website. Our innovation project, energywise, focusing on energy saving and demand side response initiatives is ongoing. We continue to send packs to our Priority Services Register customers.		
	Proactively contact all registered vulnerable customers to offer support if they are without power. Extend our local authority joint response pilot across our geographical footprint and standardise triggers. Provide every vulnerable customer an alternative high priority dedicated number. Distribute welcome packs to all new customers on the Priority Services Register. Host two subject-specific priority issue focus groups on vulnerable customers and fuel poverty every year. Maintain our community fund investing £300,000 per annum. Work with National Energy Action (NEA) to map and profile fuel poor customers within our footprint.	Double the number of customers on our Priority Services Register. We now have in excess of 1.4 million registered properties on our Priority Services Register, which is an increase of more than 260% since we made this commitment in 2013/14 when we had 378,614. This means we have already achieved our goal, and we continue to work hard to ensure all customers with additional needs are identified and receive the care they need during power cuts. Proactively contact all registered vulnerable customers to offer support if they are without power. When power cuts occur, we proactively make contact with 100% of the affected registered vulnerable customers we know are affected to make sure they have the support they need until their power is restored. We currently have more than 1.4 million vulnerable customers registered on our Priority Services Register. We are working hard along with local charities and parish councils to increase the number of customers in vulnerable circumstances registered on our systems. Extend our local authority joint response pilot across our geographical footprint and standardise triggers. This is now part of our business as usual operations. We alert the local authority at the outset of more significant power cuts and work with them through to restoration of power supplies, keeping our customers informed. Customers in vulnerable circumstances on our Priority Services Register have a dedicated Freephone number for them dedicated number. Welcome packs are provided to all new customers on the Priority Services Register. The packs include the information these customers and fuel poverty every year. Welcome packs are provided to all new customers on the Priority Services Register. The packs include the information these customers and fuel poverty every year. Maintain our community fund investing £300,000 per annum. More 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 vuln	Double the number of customers on our Priority Services Register. We now have in excess of 1.4 million registered properties on our Priority Services Register, which is an increase of more than 260% since we made this commitment in 2013/14 when we had 378,614. This means we have already achieved our goal, and we continue to work hard to ensure all customers with additional needs are identified and receive the care they need during power cuts. Proactively contact all registered vulnerable customers to offer support if they are without power. When power cuts occur, we proactively make contact with 100% of the affected registered vulnerable customers we know are affected to make sure they have the support they need until their power is restored. We currently have more than 1.4 million vulnerable customers registered on our Priority Services Register. We are working hard along with local charities and parish councils to increase the number of customers in vulnerable circumstances registered on our systems. Extend our local authority joint response pilot across our geographical footprint and standardise triggers. This is now part of our business as usual operations. We alert the local authority at the outset of more significant power cuts and work with them through to restoration of power supplies, keeping our customers informed. Distribute welcome packs to all new customers on the Priority across Register have a dedicated freephone number for them to call in case of a power cut. Welcome packs are provided to all new customers on the Priority Services Register. The packs include the information these customers require to ensure that they can receive the additional support they need if they experience a power cut. Maintain our community fund investing £300,000 per annum. Through Matched Funding, Team Sport Awards and charity partnership donations we have provided £346,105 funding for local community schemes and charities in 2017/18. We worked with National Energy Action to understand the variation of vulner

- 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

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Future energy



No.	Fight was DUO FDI Output Considerant	2017 (10 va data	2017/18	2016/17
No. 71	Deliver a series of targeted consumer surgeries for vulnerable residents designed to raise awareness of energy efficiency and how to manage energy bills.	2017/18 update We have developed further face-to-face energy café and energy efficiency workshops through trusted partners, helping customers across our three regions. We set a challenging goal to help 2,000 customers this year and helped 4,385 customers.	status	status
72	Publish a strategy to explain how smart meters can be used to reduce fuel poverty.	Our innovative project, energywise, is researching how Smart Meters can benefit customers who are in fuel poverty. This project was completed in September 2018. The findings will be used to inform our strategy which will be published by the end of 2018.	•	
73	Create a group of UK Power Networks local community energy champions.	We have partnered with Community Energy South, London Sustainability Exchange, Rural Coffee Caravan, Repowering and Carers Trust 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.		
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, this year we have focused on providing advice to customers on our Priority Services Register. For example, we have worked with other utilities to produce information on how customers submission. Click here to read more.		
75	Organise and deliver school activity days to encourage safe, efficient use of energy.	UK Power Networks supports and attends multiagency safety events (Crucial Crew and Junior Citizen) across our network area which are designed to teach young people (aged 10 and 11 years) about the dangers of electricity and the network. In 2017/18 we engaged with over 168,000 young people, face-to-face and online, about safety. We also undertook a pilot partnership with the financial capability charity MyBnk provided energy efficiency advice to 257 children aged 9-11.	•	•
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.	We maintained our position on the Sunday Times Top 25 Best Big Companies to Work For list in 2018. We were placed 11th and acknowledged as the most improved company in the list.	•	
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 that supplies us with trained staff so that we can keep the lights on. This has resulted in the recruitment and training of 1,127 staff so far in RIIO-ED1.		

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Social continued

The energy landscape is changing fast. We cannot pretend to know with any certainty what energy-related services will emerge in the future or how consumer behaviour will adapt. It is our aim to enable a smart energy system for all our customers, including those in vulnerable circumstances.

1.4m

Customers on the Priority
Services Register compared
to 1.0m in 2016/17.
The average age of our
PSR records is less than
18 months.

92%

Our customer satisfaction score among customers on the Priority Services Register

Dementia Friends

As part of being a respected corporate citizen, we set out to be a Dementia Friendly organisation. The Executive Management Team were the first to complete 'Dementia Friends' training and now over half of our 6,000 employees are Dementia Friends. Working with the Alzheimer's Society, we co-designed a tailored Dementia Friends programme for our staff and partners. We also reviewed our services, with input from customers living with dementia

y improving our understanding of the needs of our customers and so improving our processes, this group of customers ow give our services a score of 96%. We were proud to be ecognised in the Dementia Friendly Utilities Guide launched a 2018 where we shared our experience to help other utilities ecome more dementia friendly.



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Future energy

Value for money

We are proud to remain the lowest-cost Distribution Network Operator in the industry.

We see it as our responsibility to deliver great services to our customers at the lowest cost possible. We are constantly looking for ways to improve our efficiency. As well as continually finding innovative ways of doing things, we also focus on ensuring that our business processes are best in class.

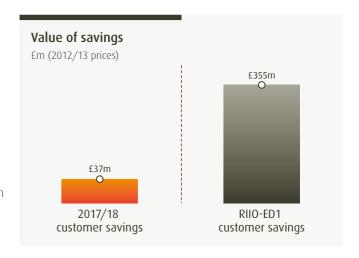
One such area is our approach to procuring goods and services. We have invested in our procurement systems and processes and strengthened the team. This has meant that our customers get value for money, our suppliers meet our safety requirements and we manage our contracts properly. Our work in this area has been recognised by the Chartered Institute of Procurement and Supply. In 2017/18 UK Power Networks was awarded Platinum accreditation for its procurement function making it one of only 12 companies in the world to achieve this prestigious recognition.

The regulatory framework incentivises companies to innovate to reduce costs. Under the framework, if UK Power Networks saves £1, this is shared approximately 50:50 with customers. In 2017/18, we outperformed our cost allowances by 10% and customers benefited

by £37m. Over the first three years of RIIO-ED1 we have outperformed our allowances by 18% which has resulted in a cumulative customer benefit £205m. Our aim is to outperform our allowances by 13% over the entire RIIO-ED1 period. If we achieve this it will generate a customer benefit of £355m.

We recognise that spending below our cost allowances must be balanced against ensuring that both the condition and capacity of our networks are maintained. These factors are measured by the Health Index and the Load Index respectively. The Health Index monitors the physical condition of the network and we aim to deliver 12.5% of the agreed target each year. Therefore, over the first three years of RIIO-ED1 we would expect to have delivered 37.5% of the total target. In 2017/18 we exceeded this across all three of our licensed networks by delivering, on average, 44% of the agreed target. We monitor the capacity of our networks via the Load Index. We have a minimum target level for the Load Index for 2023, which we must not exceed. In 2017/18 our networks were on average 48% below the pro-rated 2017/18 target.

We are acutely aware that if we spend more money than is necessary, our customers' bills will be higher than they need to be. We care about our customers, so we do all we can to prevent that being the case.



Expenditure Analysis £m (2012/13 prices)	Eastern Power Networks				London Power Networks				South Eastern Power Networks				UK Power Networks			
									Actual		Difference	Percentage difference	Actual	Allowance	Difference	Percentage difference
2017/18 expenditure	308	327	19	6%	209	230	21	9%	191	230	39	17%	707	786	79	10%
RIIO-ED1 expenditure	2,214	2,536	322	13%	1,595	1,771	175	10%	1,460	1,722	262	15%	5,270	6,029	760	13%

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Value for money

continued

Chartered Institute of Procurement and Supply (CIPS)

The improvement in our procurement processes and systems has been recognised by the Chartered Institute of Procurement and Supply. This year UK Power Networks was awarded Platinum accreditation for its procurement function. We are one of only 12 companies in the world to achieve this prestigious recognition.

CERTIFICATION

PCIPS



Eastern London South Eastern

Health Indices Cumulative target

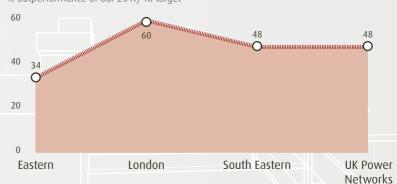
Health indices(HI), measuring the condition of the network. The figure in the chart indicates the improvement we have made on our assets in the first three years as a percentage of the overall RIIO-ED1 (eight year) target.

Utilisation of the network – Load Indices

% outperformance of our 2017/18 target

Health of the network

10



Load indices (LI), measure 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 target.

UK Power

Networks

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Future energy

The future energy landscape
A decentralised model

The world of energy is changing.
The UK's transition to a low-carbon economy is revolutionising the way we generate, distribute and consume electricity. The world of energy that families, communities and businesses will experience by 2030 will be very different to what exists now.

Distributed generation

Distributed generation technology that connects to the distribution network, closer to the consumers of electricity.

Connected technology and microgeneration

Many homes and businesses will evolve to support 'connected living', equipped with smart appliances, smart heating and lighting systems and with access to smart meters. Some 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. Finally, peer-to-peer trading, which allows consumers and businesses to trade with each other and share energy at a local level, will play a bigger role.

New market participants

New market participants may act as thirdparty intermediaries between the customer and the energy market, to help manage the customer's household package – whether that be mobility, comfort or entertainment – to optimise experiences across their lifestyle. Therefore the DSO will collaborate and create relationships with new market participants (e.g. aggregators and technology providers) to procure and use customer flexibility as an alternative to network upgrades.

Energy-efficiency

More individuals and families, communities and businesses will make energy-efficiency improvements to cut their energy costs and help lower their environmental impact by reducing their energy usage. Ways in which they may reduce their energy usage include switching to LED bulbs, using smarter and more efficient appliances like fridge, freezer and washing machines.

Utility-scale storage The interest in electricity

The interest in electricity storage is increasing in line with the need for greater system flexibility. Storage can bring customers a number of benefits, 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.

Power supply from 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 operated by National Grid.

Whole-system incentives

Increasingly, electricity network operators will play an important role in delivering value for customers in the wider energy system to achieve decarbonisation at the lowest cost. This will see the development of whole-system incentives and mechanisms within the regulatory framework to encourage smart operations at the distribution level to support other electricity DSOs, National Grid and other energy sectors to realise wider system benefits.

Data and visibility

Developing local energy markets

The development of local energy markets is

trading, which allows consumers to trade with

each other and share energy at a local level,

will enable local community energy schemes

and smart cities. These local energy networks

can serve their own energy needs and provide

surplus power to DSOs. Gas and electricity

overall energy system needs.

DSOs will collaborate and coordinate to meet

an area of strong growth. Peer-to-peer

The volumes of data being exchanged by network infrastructure and the DSO will increase significantly. This information will need to be exchanged with market participants in order to anticipate and plan for future system needs.

UK Power Networks

RIIO-ED1 Business Plan Commitment Report 2017/18

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A day in the life of a future customer

At the heart of the transformation to the low carbon future is the interaction customers, companies and communities will have with their energy use and the energy market. Looking to the low carbon future, we explore how a day in the life be will be different for a domestic customer of the future.

2. Optimising power usage with a home smart hub

After breakfast, Daniel loads the washing machine and sets the cycle to complete by 5pm. This information is relayed to his 'Home Smart Hub' which can communicate and control the smart electrical devices in the household. The Hub checks the forecast and, seeing that it's going to be a sunny afternoon, schedules the washing machine run for 2pm, when the solar panels on the roof will be generating at their maximum. Based on the forecast, he is expecting that the panels will generate excess electricity, which is good since he earns money from the local scheme for the electricity he can sell.

3. Saving and making money through adaptable charging priorities

Daniel unplugs his electric vehicle which has reached 90% charge. As he set it to a medium charge priority (guaranteeing 70% charge and using the spare capacity to offer flexibility to the community energy scheme) the spare capacity must have been utilised for flexibility services. Daniel leaves for work, smiling at the thought of the extra money earned.

Hi there, I'm Daniel Explore what my day looks like in the future 7 6

4. Coordinating smart appliances to offer flexible services

The Hub recognises the house is now empty and coordinates the smart appliances in the household to provide flexible demand services to the community energy scheme, with the fridge and freezer temperatures allowed to vary by +/-1°C.

5. Flexible charging rates for electric vehicles

Daniel arrives home from work, plugs in his electric vehicle and sets the charge priority to high which guarantees him a full charge by the morning. He's off on holiday tomorrow and has a long drive in the morning so needs the car battery to be at full capacity. The Hub detects the car being plugged in and removes the offer of flexibility from the community energy scheme.

1. Being part of a community energy scheme

At 6am Daniel wakes up and hops into the shower, still amazed that the hot water is being supplied by the local Combined Heat and Power plant down the road. He's now been in his house for a month, part of a wider new development with a specially designed community energy scheme, linking the plant, households and their solar panels, offices and battery storage together.

ELECTRIC AVE

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Key contacts

General enquiries

0800 029 4285

Emergencies or power cuts (24 hours a day)

Free power cut helpline 3-digit number: **105** or 0800 31 63 105
Please note this number is 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

Text Relay

We offer a 24-hour Text Relay service for customers who are deaf, hard of hearing or have any other communication difficulties. For more information, visit **www.ukpowernetworks.co.uk**

Connection services

0800 029 4280

Media enquiries

0330 159 1712









A full list of our contact details can be found at: **www.ukpowernetworks.co.uk**

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UK Power Networks Holdings Limited

Registered in England and Wales No. 7290590 Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP

www.ukpowernetworks.co.uk

UK Power Networks Holdings Limited is the holding company of the companies in the UK Power Networks group of companies