

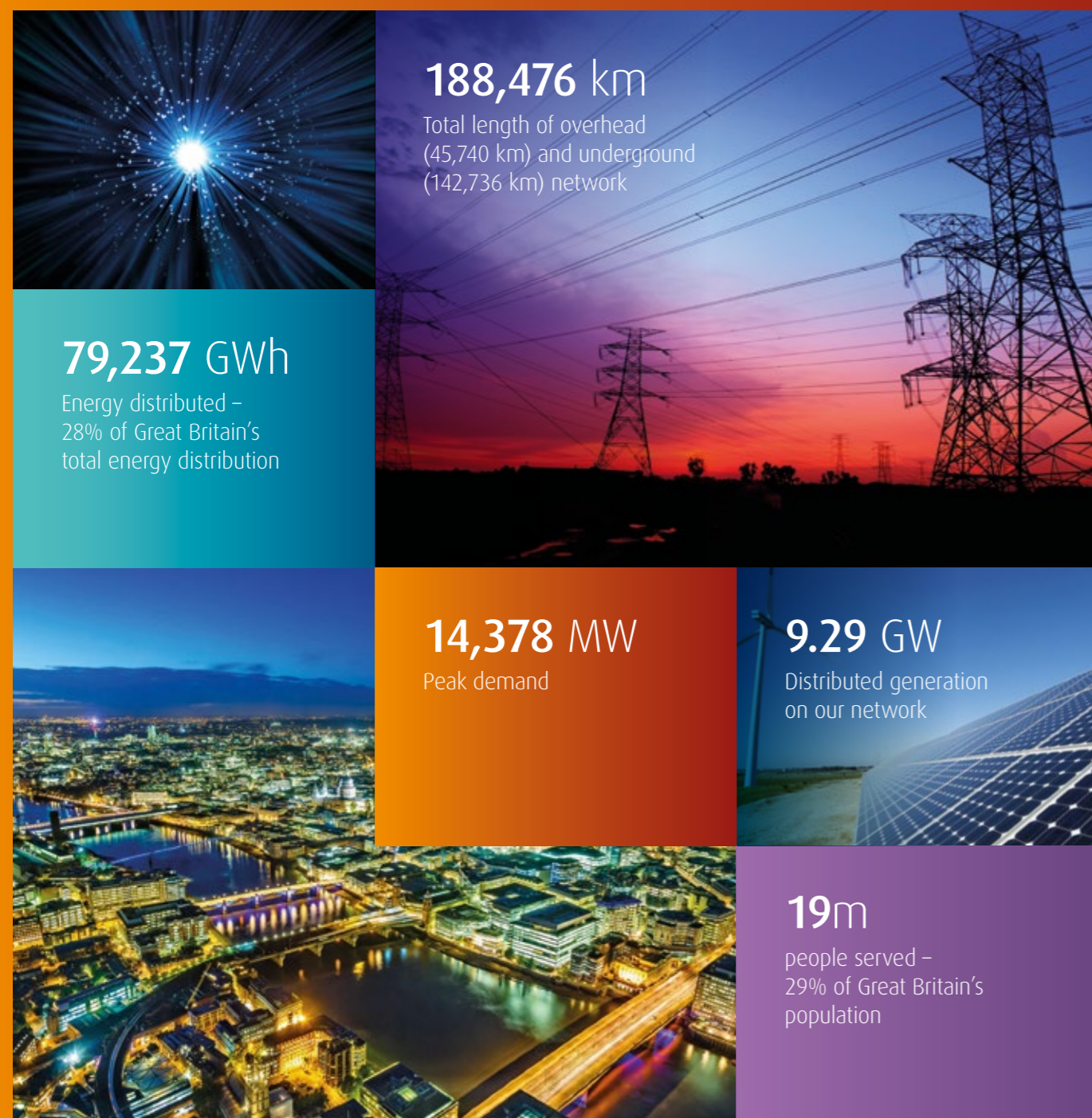
Annual review 2018/19

# Enabling everyone to benefit from the energy transition



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## UK Power Networks in numbers



## Our vision and values

UK Power Networks is the UK's biggest electricity distributor delivering power to 8.3 million homes and businesses across London, the east and south east of England. We keep the lights on across 29,250 square kilometres, serving 19 million people from Cromer in the east to Brighton on the south coast.

### Our vision:

To be consistently the best-performing Distribution Network Operator

#### An employer of choice

- The safest – with an exemplary safety record
- A place where people love to come to work
- Embracing diversity
- An appropriately skilled workforce for both today and the long term

#### A respected corporate citizen

- The most reliable networks
- The most satisfied customers
- The most innovative
- The most socially and environmentally responsible
- Ensure we meet the needs of our vulnerable customers, both now and in the future
- Enable the low-carbon transition for all as the leading UK Distribution System Operator

#### Sustainably cost-efficient

- The lowest-cost electricity distributor
- Deliver on our commitments
- Deliver profitable growth in our Services and Connections businesses

### Our values:

We deliver high performance within an agreed set of values

#### 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 that 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.







**Basil Scarsella**  
Chief Executive Officer



### Ranked 9th

in the Sunday Times 25 Best Big Companies to Work For and we remain the only DNO to feature in this list.



## Enabling everyone to benefit from the energy transition

The world of energy supply and distribution is in the midst of unprecedented change that is similar to the upheaval we saw in communications when broadband arrived. At UK Power Networks we will do all we can to ensure that this energy revolution is one that benefits everyone. We have commissioned research to make sure we understand what the impact of the changes will be, particularly on those who are in vulnerable circumstances or who may not find it as easy as others to use the tools that give access to those benefits. We are determined to do all we can to make sure no one is left behind in the new energy landscape.



UK Power Networks has shown it is willing to listen to stakeholders, including those beyond the energy industry. They have recognised the importance of listening and sharing knowledge in order to innovate towards achieving win-win outcomes.

**David Wong**  
Senior Technology and Innovation Manager,  
Society of Motor Manufacturers and Traders



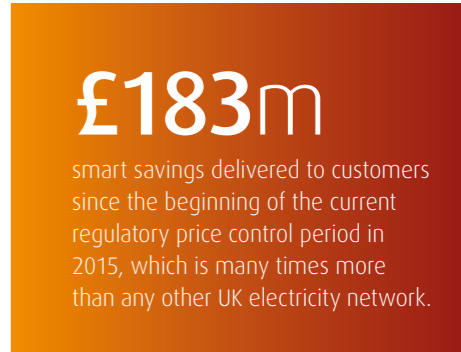
### Sustainable Development Goals

We want to be the most socially and environmentally responsible Distribution Network Operator (DNO) and we are committed to achieving a better and more sustainable future for all. We have aligned our activities to the United Nations' Sustainable Development Goals which address the global challenges facing the world. We have prioritised eleven of the UN's goals that are particularly relevant to our business (see above) such as affordable and clean energy and industry, innovation and infrastructure. In the following pages you will see how we have addressed these goals in our operations and initiatives.



We're delighted that UK Power Networks has achieved verification certification to BS 18477 for the fourth year running. This will help provide its customers with the confidence that it is providing **fair, flexible service to all**, regardless of their health, age or personal circumstances. By achieving verification certification to this standard, the team has demonstrated that it has the relevant policies and procedures, training plans and fair and accessible practices embedded within its organisation.

**Heather Nowak**  
Scheme Manager,  
British Standards Institution



**£183m**

smart savings delivered to customers since the beginning of the current regulatory price control period in 2015, which is many times more than any other UK electricity network.



### First DNO

and utility company to be formally assessed by the Cabinet Office for organisational resilience.





# UK Power Networks has a clear public purpose...

UK Power Networks owns, operates and manages three of the 14 regulated electricity distribution networks in Great Britain. Our networks deliver electricity to 19 million people (8.3 million homes and businesses); that's 29% 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 three networks regulated by Ofgem are:

### East

#### 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.



## Lowest cost

Supporting our customers by being the **lowest** cost DNO, where our domestic customers pay an average of only £6.32 per month.

## ...to deliver electricity to London, the east and south east of England.



Through our unregulated business, UK Power Networks Services, we deliver and manage high-voltage electrical and multi-utility networks for owners of major infrastructure. This portfolio includes a range of high-profile clients from both the public and private sector including London's five main airports (Heathrow, Gatwick, Stansted, Luton and City); High Speed 1; Network Rail; London Underground; Southern Water; Aspire and Canary Wharf.

### Key focus areas

The nature of our business means we are responsible for keeping the lights on, safely and sustainably, and caring for our customers in the most vulnerable circumstances across our communities.



**Maintain the safety and reliability** of our electricity networks by doing no harm to people and places and making sure power cuts are as rare and short as possible.



**Meeting our customers' evolving needs** by improving existing services and shaping new ones.



**Caring about the environment** by reducing the environmental impact of our operations and enabling our country's low-carbon transition.



**Go above and beyond for our communities** by ensuring we remain legitimate and responsible in the eyes of our customers.



**Support our customers in vulnerable circumstances** and ensure they are not left behind during the complex energy transition.



To read more about our operational performance, go to **page 20**



## Providing a safe, reliable electricity supply...

UK Power Networks is in business to provide a safe and reliable electricity supply. Electricity can be dangerous, so keeping our employees and the general public safe is our number one priority. It is also essential for day-to-day living and we understand the inconvenience it causes when it is not available. UK Power Networks is the safest, the most reliable and the lowest cost DNO and that is because we focus relentlessly on those measures.



### The safest DNO

Our safety record has been the best in the industry since 2013.



## ...as we focus on our customers' evolving needs...



**99.99%**  
Network reliability



**88%**  
Our best ever customer satisfaction score



What a great initiative, UKPN assisting us with sending out important information to their customers about the Locking Cooker Valve. It has resulted in a number of enquiries and spread the word wide and far. We are looking forward to continuing to partner UKPN in other areas, especially vulnerability.

Pamela Goeë  
Head of Community, SGN





To read more about our operational performance, go to **page 20**



## ...investing in a low-carbon economy...

UK Power Networks is committed to developing technological and commercial innovations to facilitate the transition to a low-carbon economy. We are developing exciting innovations that will facilitate ever more renewable sources of energy to supply our networks and support the decarbonisation of heat and transport. UK Power Networks is proud to be a leading architect of the low-carbon economy.



We've been working closely with UK Power Networks and we're delighted with the progress we've made. Their proactive approach has made it easier for new entrants, such as business and public bodies, to get involved in the emerging market for flexible energy services.

Lead for Smart Energy Systems, Greater London Authority



### Delivering a smart grid for all

Electricity of the future will be produced and consumed very differently from how it was in the past. Solar power and the other low-carbon sources will generate most of the electricity on the network. It will no longer be supplied in one direction, from producer to consumer; the lines are blurring, and consumers will, increasingly, also be producers.

We are innovating to enable this future, adapting our existing infrastructure and embedding novel and cost-effective solutions to accommodate these profound changes. It is a priority for us to make sure that everyone has the chance to benefit from these exciting innovations.



# Ranked 1st

in Europe and 3rd globally in the Singapore Power Group's Smart Grid Index

# 21%

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

## ...to deliver a sustainable future for all.



# 4.1m

Forecast number of plug-in electric vehicles across UK Power Networks by 2030

Source: UK Power Networks' analytics

### Enabling the uptake of electric vehicles (EVs)

UK Power Networks is playing a leading role in facilitating the electrification of transport, particularly enabling the uptake of EVs. We are making sure that the infrastructure is in place to support the inevitable surge in demand for EVs, preparing the network for an increase in demand for power, and using innovative planning tools to identify when and where EVs can be charged. We are also working with commercial fleet operators and Transport for London to facilitate the electrification of these vehicles.





# 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 from what exists now.



## Benefitting communities



In the move to a decentralised energy system we expect communities to want to generate their own power by installing renewable energy generators such as solar or wind. This will allow them to meet their own power needs and also provide them with an opportunity to sell any surplus power to other customers. This will mean they can reduce their own energy costs, generate an income and help cut overall carbon emissions.

Community energy schemes can however face financial and technical challenges. We are providing practical help in two ways. First, we are offering financial help through our Power Partners Fund; this has enabled five new community schemes this year. We also worked closely with a number of community energy bodies to produce a regional community energy report, that is the first of its kind, to publicise the issues they face and the benefits they can bring.

We know that in order to help our customers achieve what they want from energy in the future, we need to evolve to meet their changing and future needs. UK Power Networks is well under way with plans to transform from being a Distribution Network Operator (DNO) to a Distribution System Operator (DSO). That means we will evolve from a company that simply manages the network into one that is proactive and enables a smart, flexible system.

## Creating flexibility at home



Historically, when customers wanted to use more energy, we installed larger physical assets such as transformers and cables to provide more capacity. The move to a decentralised and digitised energy network provides us with an opportunity to look at this problem in a different way. Rather than build this additional capacity, we are working with our customers to understand how we can incentivise them to reduce their demand, for example using their own generation or battery storage or by moving that energy usage to a different time of day.

An example of this is the charging of EVs. If all customers decided to charge their EVs as soon as they got home from work, we would need to build more network capacity to meet this higher demand. If we can incentivise our customers to choose not to charge their vehicles at this time, and also to use any energy in the EV battery to reduce their home demand, then we can avoid the cost of building this network. This will ultimately reduce customers' bills. It will also deliver other benefits such as reducing the disruption from street-works associated with installing new physical infrastructure.







### Decarbonising transport

The transport sector is responsible for 28% of greenhouse gas emissions. The decarbonisation of transport, via rollout of EVs, is not only fundamental to achieving the net zero carbon target but also to improving air quality. UK Power Networks is playing a pivotal role in facilitating this transition by ensuring that our electricity network is ready to support this additional power demand.

We also recognise that we have a responsibility to make it as easy as possible for all our customers to navigate this new world. Our stakeholder engagement highlighted that the impact of transitioning to EVs was a major area of concern for our customers who are in vulnerable circumstances. To address this we approached Motability to help us understand how we could help this hard-to-reach customer segment. As a result of our discussion with them we have created a new partnership to provide a range of tailored, targeted and meaningful support to their clients.



**1 Distributed generation**  
 Generation that connects to the distribution network, closer to the consumers of electricity, rather than to the transmission network is commonly referred to as distributed generation. There has been a massive expansion of distributed generation over the last eight years with 18GW of generation connected to the distribution network in Great Britain, the equivalent of five Hinkley Point C power stations. Thirty per cent of electricity generation is connected to the distribution network.



**2 Access and visibility of data**  
 We expect the volumes of data being exchanged in a decentralised and digitised future energy world to increase significantly. The Energy Data Taskforce has highlighted that effective management, storage and access to data will be crucial to building a smart energy system. Data will need to be exchanged with market participants in order to anticipate and plan for future system needs. This will allow them to innovate to develop new market mechanisms and ensure that investment is targeted at both the right technologies and the right locations on the energy system. Ultimately, this will ensure that the digitised, decentralised and decarbonised energy system of the future is delivered at the lowest cost for customers.



**3 Decarbonising heat**  
 The heating sector is responsible for 40% of all greenhouse gas emissions, the highest of any sector. Decarbonising heat will be critical in achieving the net zero carbon target and it is widely recognised as one of the most difficult sectors to address. In the future we expect more homes to be heated by heat pumps rather than by gas boilers. A heat pump is an electrically powered heating technology which takes heat from the air outside and uses this to heat your house.



**4 Power supply from the National Grid**  
 Today, large-scale generators with capacities typically up to hundreds of megawatts, such as gas, large-scale wind farms and nuclear power plants, connect to the high-voltage transmission network operated by National Grid. Energy from these generators flows through the transmission system to the lower voltage distribution system and on to customers. With the continuing growth in distributed generation we expect less energy to flow from the transmission system to the distribution system.



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



# Chief Executive's review



"The public purpose of UK Power Networks remains, as ever, to deliver electricity to London, the east and south east of England."

Our strategy since we started in business in 2010 has focused on putting the interests of our customers and employees at the forefront of everything we do. In that period, we have seen the electricity industry go through unimaginable changes; the UK economy is transitioning to low-carbon, and our electricity network is playing an important part in enabling that transition. These are exciting times to be in the power industry. The move to a low-carbon, decentralised energy network will transform the way we all get around and live our lives. As a company, we face a range of complex challenges. We must maintain the resilience of our network at the same time as we are developing it in order to connect renewable energy sources, EVs and batteries.

I am pleased to report that 2018/19 was another excellent year for us, with performance improvements in all our key measures. UK Power Networks manages the safest, most reliable and lowest cost distribution network in the UK. Our customer satisfaction levels sit at nearly 90% and our employee engagement places UK Power

Networks in the top ten of the Sunday Times 25 Best Big Companies to Work For. With an eye to the future, we are pleased that our network was ranked first in Europe and third globally in the Singapore Power Group's Smart Grid Index.

We recognise the privileged position we hold as a monopoly supplier of an essential service, so we pay special attention to our social role. We take particular care of those customers who, for a variety of circumstances, are vulnerable. The elderly, those with disabilities, or for whom energy costs are a disproportionate element of their expenses all warrant extra care and consideration from us. Our work with National Energy Action tells us that nearly a million households we serve are in fuel poverty; we believe we have a responsibility to help tackle this issue. This has been a priority since we started in business in 2010. Working with a range of trusted partners, our energy efficiency programmes have, so far, saved nearly £10 million for our customers who are most in need.

As part of our vision of being the most environmentally responsible DNO, this year we have launched our Green Action Plan. It sets ambitious environmental targets that will help us to realise our vision. We believe this plan will mean we can demonstrate best-in-class environmental credentials that show that we go above not only our RIIO-ED1 business plan commitments to Ofgem, but also those of our peers. Its creation was only achievable through direct stakeholder engagement.

### The Green Action Plan is built on three pillars:

- 1. Minimise our environmental impact** – reduce the impact of our own operations on the environment
- 2. Support the global low-carbon transition** – fighting climate change
- 3. Leading by example** – setting a standard for other DNOs to follow

# Our performance

We are proud of our achievements since we started as an independent business in 2010 and the progress we have made.



10%

lower annual domestic charges than the industry average

## Another award-winning year

We are delighted to be placed ninth in the Sunday Times 25 Best Big Companies to Work For and remain the only DNO to feature in this list. This is one of the many awards we won in 2018/19.



90%

improvement in the frequency rate of Lost Time Incidents since 2010/11



Furthermore, the plan includes commitments to achieve accreditation from organisations such as the Carbon Trust that require us to meet challenging targets. We also adopted the United Nations' Sustainable Development Goals to demonstrate and reaffirm our commitment to enabling social progress, sustainable and economic growth while taking care of the environment.

Overall, 2018/19 was another successful year for UK Power Networks which would not have been possible without the efforts of our highly skilled and committed employees, for which I thank them.

Basil Scarsella  
Chief Executive Officer

53%

improvement in Customer Minutes Lost since 2010/11



18%

improvement in our customer satisfaction scores since 2011/12





# Our people

On this page you will see how we have performed against the following Sustainable Development Goals:



At UK Power Networks we aim to provide a safe, reliable supply of electricity that provides value for money to satisfied customers. We work hard to ensure that we have a team of people who have the huge range of skills and experience that it takes to deliver that service. Recruiting and retaining the best people for our business is vital to our continuing success. We are establishing a deserved reputation as a great place to build a career, where merit is rewarded, and opportunities are open to everyone.

**This year we earned a place in the top ten of the Sunday Times 25 Best Big Companies to Work For. UK Power Networks is the only utility company in the top ten, and the only DNO in the whole list. We also retained our Gold Investors in People accreditation.**

## Inclusive and diverse

At UK Power Networks we are committed to creating a working environment in which everyone has the same opportunities to succeed. We were delighted to be awarded the National Equality Standard accreditation, the UK's highest standard of recognition for best practice on equality, diversity and inclusion. This standing is reinforced by our appearance at number 16 in the list of the Inclusive Top 50 UK employers. Gender, ethnicity, sexual orientation and age are just some of the characteristics that we are working to render irrelevant to our employees' career progression.

Historically, ours is a predominantly male industry, so attracting and retaining more female employees is a priority for us. Employees volunteer to be Science, Technology, Engineering and Maths (STEM) ambassadors; they visit schools and help challenge the assumptions that begin early in life about working in an engineering-based industry. Correcting long-term bias is of course a long-term project, but we are tackling the challenge in more immediate ways too. In 2018 we ran a pilot project which analysed the language used in our job advertisements, identifying and replacing words that are recognised to discourage applications from women. In our pilot job advertisement, this rewording resulted in a 50% increase in applications from women (from 8% to 12%). This approach will now be used in all our recruitment advertising.



## A diverse workforce

Stakeholders on our CEO Panel reinforced the link between diversity and company performance. A workforce that reflects the community it serves is able to provide a better level of service. To demonstrate our commitment to this, we targeted the National Equality Standard (NES), the top UK standard of best practice on equality, diversity and inclusion, and in 2018 we became the first DNO in the UK to be awarded this accreditation.

We want to be actively inclusive, so we took a fresh look at the job boards where we post our advertisements. This has led to an increase of 23% in applications from Black, Asian and Minority Ethnic (BAME) candidates. For our graduate and apprenticeship programmes, we have introduced 'blind' CV screening, in which identifying indicators such as age, name and school are removed. In 2018, 64% of applications to our schemes were from BAME candidates compared with 50% in 2017.

## Employee retention

Our position at number nine in the Sunday Times 25 Best Big Companies to Work For tells us that our efforts to attract and retain the best people are bearing fruit; we are careful not to be complacent, however, and we have a range of programmes and initiatives in place to ensure that continues. Nine percent of our employees are in supported study of some sort, such as degrees and City & Guilds qualifications. We also have extensive e-learning opportunities on subjects such as inclusive behaviour and coaching skills, all of which contribute to employees' career satisfaction and progression. The average rate of retention for graduates in our industry over five years is 66%, and at UK Power Networks this rate is 82%. Career progression is clearly an important factor in this; in 2018/19 we filled 77% of manager posts with internal candidates and 53% of senior manager roles. We also have a programme to identify and nurture future leaders; 82% of employees on this programme are still with UK Power Networks eight years on.



## Telegraph Top 50 Women in Engineering 2018

Two bright lights from UK Power Networks were recognised among the Top 50 Women in Engineering: Returners and Transferrers. Samantha Burchell, Network Operations Manager for the Croydon area and Kellie Dillon, Innovation Workstream Lead, earned the honour from the Women's Engineering Society.

## Focus on mental health

We want to help keep our employees safe and well, and you can read in the Safety section on page 20 about how we have achieved the best safety record in the industry. We approach mental health in much the same way as we do physical health in that we aim to anticipate and prevent problems rather than simply deal with them when they happen.

We have over 100 mental health first aiders who have been trained to spot potential problems and offer support and signpost colleagues to professional help where appropriate. The Executive Management Team have also been trained to improve their understanding of the causes and effects of mental health problems and are acting as Mental Health Ambassadors. The second element of our approach is called Your Energy and it promotes employees' general wellbeing. Launched in 2017/18, this programme is designed to nurture good mental and physical health by helping employees to manage their work-life balance.

Underpinning these initiatives is a network of support resources available to all employees. This includes access to an independent employee support service, Validium, that offers one-to-one, confidential advice and support, and a simplified Occupational Health and Wellbeing portal that consolidates the extensive collection of online resources and information available to employees.

## Our accreditations



Highest level of organisational resilience deemed appropriate for a DNO against all areas of BS 65000 as assessed by the Cabinet Office's Emergency Planning College. We are the only DNO to have achieved this.



Maintained our ISO 14001 environmental standard, an international standard that specifies requirements for an effective environmental management system.



UK Power Networks appeared in the Institute of Customer Service's UK Customer Satisfaction Index.



Highest standard in the UK for best practice on equality, diversity and inclusion. First DNO to be awarded the National Equality Standard.



UK Power Networks retained our Gold award from Investors in People. We are among the top 7% of accredited organisations in an international standard that recognises high performance through good people management.



Ranked 16th in the Inclusive Top 50 UK Employers.

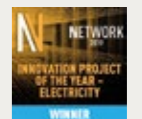
## Some of our awards



UK Power Networks Services' Rationalised Autotransformer System project was named 'Innovation of the Year' at the National Rail Awards for its work on the Great Western Electrification Programme.



UK Power Networks project Domestic Energy Storage and Control (DESC) won the Energy Storage Award. The project addresses the challenge of how to use more of the solar energy generated by people's domestic solar panels to help power homes at peak times when the sun is not shining.



UK Power Networks picked up the 'Innovation Project of the Year' title at the Network Awards for its Kent Active System Management (KASM) project designed to improve reliability of electricity supplies and support the UK's move towards a low-carbon future.



UK Power Networks ranked ninth in the Sunday Times 25 Best Big Companies to Work For. We remain the only electricity distribution network operator to feature in this list.



We're proud to have won 18 first place industry awards including Utility Week's Best Customer Care, Environment and Team of the Year public safety campaign; as well as The Big Bang Award for Innovation: Electric Avenue project, Constellation Award for Utilities Collaboration: The Alliance team, Constellation Award for Collaboration with Customers: The Smart Grid team and the Health and Safety Champion Award.

## Apprentices

In 2018, Jobcrowd ranked UK Power Networks one of the Top 20 best apprentice employers in the UK, and Ofsted recognises our programmes.

Our Apprenticeship Standard qualifies people for one of three trades: cable joiner, overhead linesperson or electrical fitter; the Higher Apprenticeship Standards

trains our engineers (Engineering Power Networks Engineer, and Commissioning and Protection Engineer).

UK Power Networks received its first monitoring report from Ofsted in February 2019 and was rated as making 'Significant Progress'.



# Transparency

On this page you will see how we have performed against the following Sustainable Development Goals:

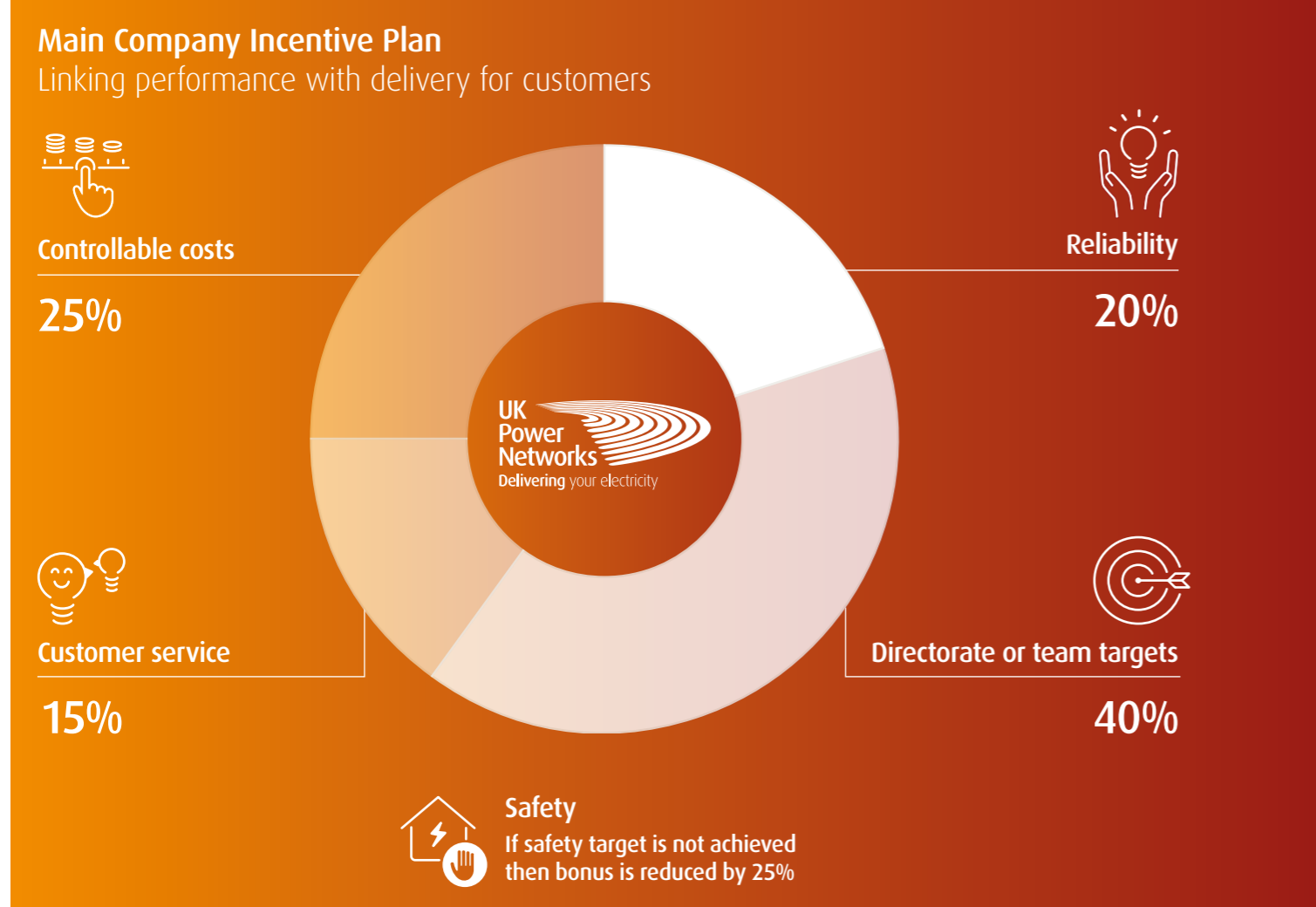


We are acutely aware of the privileged position we occupy as a monopoly provider of an essential service. We are a top performing UK DNO group and accept that this high performance brings with it increased scrutiny from our customers, other stakeholders and the industry at large. We are committed to being open about our operations and, through documents such as this Annual Review and our RIIO-ED1 commitments report, we seek to make it easy for all our stakeholders to understand how we are performing and, most importantly, how we are delivering for our customers.

**We believe that it makes business sense for our employees to be incentivised in line with delivering our business vision. The main way employees are incentivised is through the Company Incentive Plan (employee bonus scheme). In line with our vision, our employees are rewarded for achievements in the areas of safety, network reliability, customer service and cost saving.**

Since its inception in 2010 the key focus of UK Power Networks has been to deliver the outputs that our customers want at the lowest possible cost. We have delivered significant improvements in safety, the reliability of our networks and customer service. With respect to the latter two, the company is financially incentivised to beat the targets set by our regulator, Ofgem, and we are penalised if we fail to meet them.

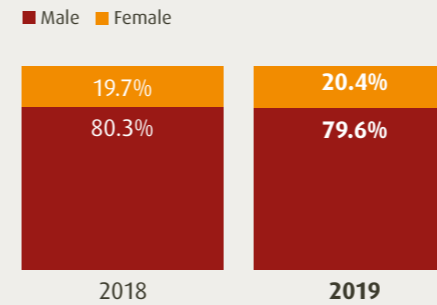
In 2018/19 we earned £66m from these incentive schemes. Before we submit our performance figures to Ofgem, we have all the relevant information verified by external assessors. This means our customers can see evidence that these rewards are justified.



90%

of UK Power Networks employees are covered by the Trade Union Collective Agreements

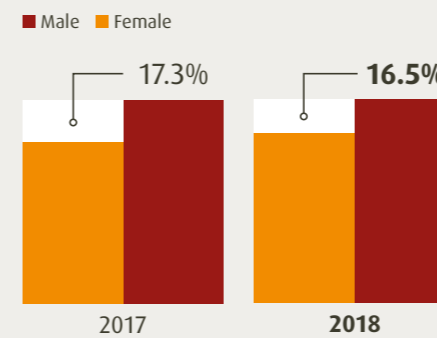
## Gender mix



As we have highlighted in our People section (page 14) we are committed to recruiting more women and other under-represented groups into higher paid field and engineering roles. There is a shortage of females progressing into STEM subjects (Science, Technology, Engineering and Manufacturing) both at school and university.

UK Power Networks reflects this; women account for only 20% of our workforce, and are significantly under-represented in the professional, engineering and senior management levels of the organisation. We are working hard to improve this position and it is promising to see an increasing trend in the proportion of women in our workforce compared to 2018.

## Gender pay gap



We are pleased that our gender pay gap has reduced in the past 12 months and we are committed to acting to reduce it further. It compares favourably with the UK as a whole, although we know there is still scope for considerable improvement.

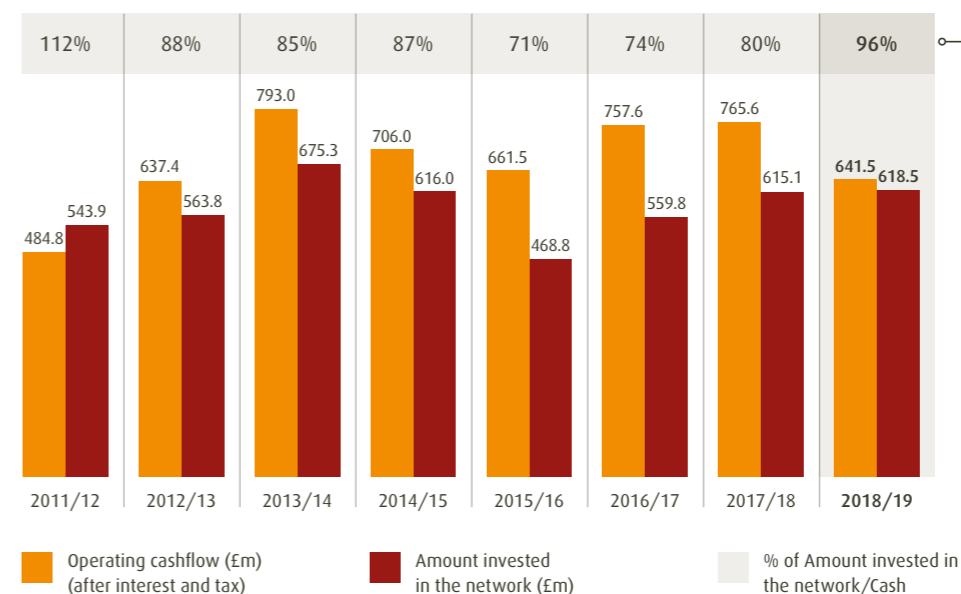
Collective bargaining of pay structures and long service mean it will take some years to correct this imbalance.

Our gender pay gap in 2018 was lower than many of the utilities businesses with whom we compare ourselves.

UK Power Networks operates in a sector which has traditionally employed men in higher paid field and engineering roles.

In April 2018, our mean gender pay gap was 16.5%. This is an improvement of 0.8% points over our result for 2017.

## Investment in the network



## Average 86%

As we are a capital-intensive business, comparing our profit margins to service or retail companies can be misleading. Annual profit margins do not take into account long-term investment in new and existing assets. We believe that comparing how a business is investing the cash it generates is a better measure.

Over the past eight years we have, on average, invested **86%** of the cash that we generate from operations back into our networks to benefit the 19 million people connected to our networks.



# Organisational resilience

As the provider of a vital infrastructure service, it is essential that UK Power Networks can prevent or withstand a range of possible catastrophes that could befall us. Historically, extreme weather damaging our network has been the primary risk for which we have had to be prepared. In recent years, however, cyber-attacks have become an increasingly pressing concern. Terrorism is not new, but its threats are ever more complex. Our growing reliance on IT systems makes IT failure, be its cause deliberate or not, a further source of potential danger to power supplies.

**To address this, in 2014, we set about developing and enhancing our levels of resilience, aligning ourselves to industry best practice and national standards. In 2016, working with the Cabinet Office and its Emergency Planning College (EPC), we became the first utility to be independently reviewed on our functions of Organisational Resilience, based upon the BS 65000:2014. We have continued these reviews annually to embed our strategy and we strive to become more resilient each year.**

The focus we put on organisational resilience is intense. The leadership team is driving our resilience programme and, in 2018, we created a new role of Organisational Resilience Manager.

This role is dedicated to providing consistent focus on anticipating and managing the multiplicity of threats to our business. Initially, our approach to managing resilience was to focus on a site-by-site basis, concentrating on threats to particular buildings or facilities such as our head office and key infrastructure plants across our operations.

This year we expanded our approach to balance this with an increased focus on processes. For example, our IT systems support the whole of our business and they could be subject to a whole system attack.

We hold regular resilience forums across the business, covering risks such as IT, business continuity, health and safety, emergency planning, business risk and physical risk.

## First in UK

UK Power Networks is the first Distribution Network Operator to achieve Level 4 out of 5 from the Cabinet Office Emergency Planning College assessment for Organisational Resilience based on BS 65000:2014 Guidance on Organisational Resilience.

This year, working with other DNOs, government agencies and external third parties, we took part in a controlled, simulated cyber-attack. The exercise encompassed the full suite of response levels (Strategic, Tactical, Operational) throughout our organisation and threw valuable light on the best ways to deal with such an attack, both within UK Power Networks and in a coordinated way with other agencies. We greatly benefited from the opportunity to highlight and strengthen possible weak spots in our organisation.

On this page you will see how we have performed against the following Sustainable Development Goals:




## Our Risk Forums 2018/19

We hold six Risk Forums throughout the year. These cover Business Risk, Health and Safety, Physical Risk (relating to people and premises), IT Risk (including cyber threat), Business Continuity and the core threat that we are well versed in considering: Emergency Planning, which includes severe weather risks.








**Specific actions this year included:**

- Expanding** our Business Continuity Plans (BCPs): we created more than five times as many BCPs in 2018/19 than we did in 2017/18
- Investing** to improve cyber security, with an average of 3,442 system events per second processed by our automated cyber monitoring
- Integrating** risk management and organisational resilience at a strategic level through an Organisational Resilience Leadership Team
- Testing** response capability and shared learning through joint exercises with government, the banking sector and other utilities
- Educating** 4,600 staff who undertook cyber training – a 28% increase on the previous year
- Responding** to a severe wind storm in March 2019 which had not been forecast, we activated emergency procedures restoring over 99% of the 60,000 customers affected within 24 hours, allowing customers to return to normality as soon as possible
- Strengthening** resilience at a local level through our membership of Resilience First, providing advice and support to the business community


These initiatives have undoubtedly contributed to our 2019 rating of Level 4 (out of 5) for four of the five areas tested, and Level 5 for Leadership and Culture.



“

We were impressed by the enthusiasm, knowledge and commitment across each of the work streams contributing to UKPN’s drive to embed organisational resilience into its culture.

**Martin Fenlon**  
Lead Reviewer Cabinet Office, Emergency Planning College

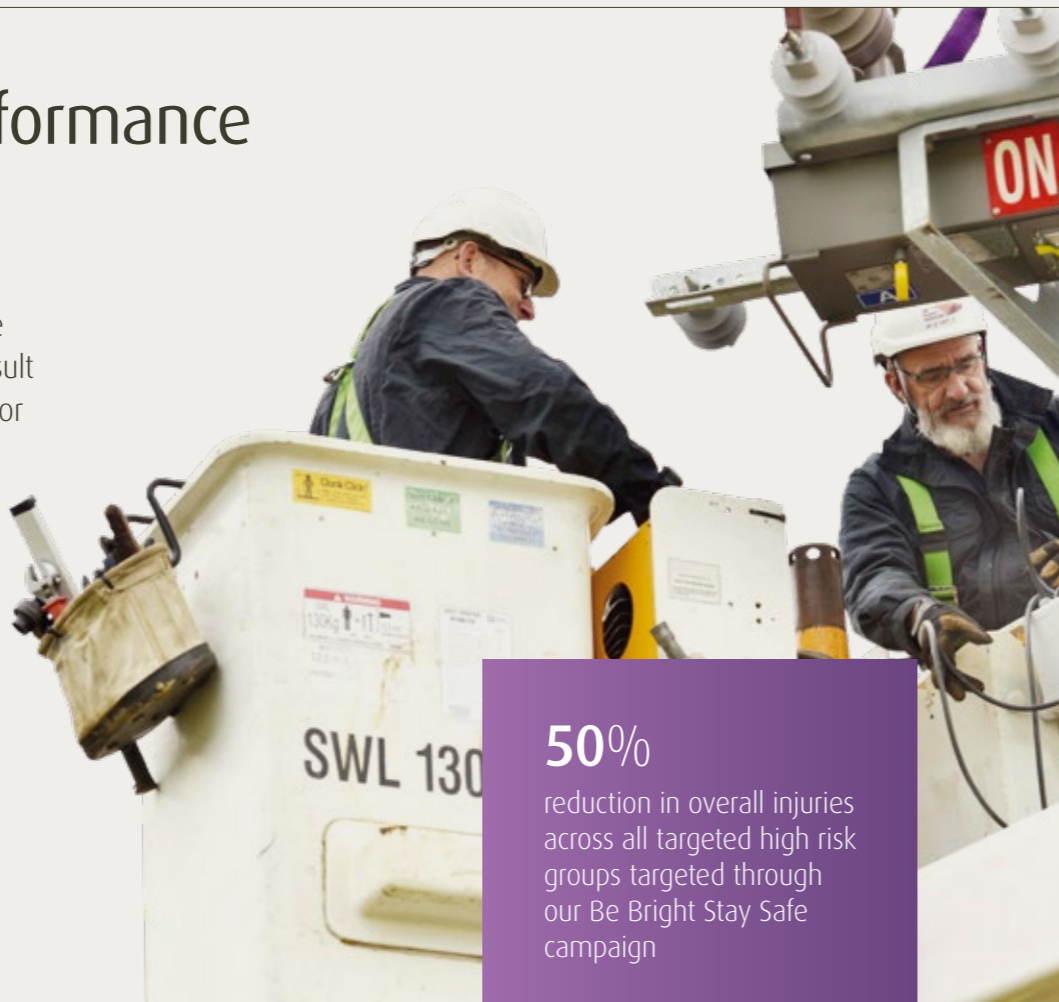




# Operational performance

## Safety

We do everything we can to ensure that no one comes to harm as a result of our actions, inaction, equipment or ways of working. The twin goals of providing a safe work environment for our employees and delivering a service to our customers that presents no danger to the public combine to form what is simply the most important objective of all: to achieve an exemplary safety record and be the safest DNO.



**50%**  
reduction in overall injuries across all targeted high risk groups targeted through our Be Bright Stay Safe campaign

**We never rest in our pursuit of safety. We are proud to have the best safety record of all the DNOs, but we are well aware that complacency is the enemy of vigilance.**

Our approach to safety recognises both the danger that electricity poses and the realities of human nature that mean it is natural to discount – consciously or not – the risks that surround us all. Our culture of being proactive in our approach to safety is so deeply embedded that we take nothing for granted. We believe that everybody deserves the right to go home safe and that all accidents are preventable.

### Keeping our employees safe and well

We approach safety in a way that is as multifaceted as the people we are aiming to keep safe and well. Everyone brings their own attitudes and beliefs about risk and safety to their lives and work. We often need to overcome those attitudes and behaviours, and appeal to people's emotions in order to challenge their automatic assumptions and deeply ingrained beliefs and habits.

Complementing our Stay Safe behavioural safety programme, we have this year expanded the wellbeing aspect of our holistic health and safety initiatives. This year we have put a particular emphasis

### Be Bright Stay Safe

We refreshed our public safety campaign, Be Bright Stay Safe, in 2017/18 and the statistics show it is working. This campaign is ground-breaking in its rigorous use of data to drive its direction. We analysed comprehensive accident data to establish which groups were most at risk from electricity infrastructure. The data showed that farmers, hauliers and construction/excavation were the industries most in need of information and encouragement to change their behaviour around electricity safety, so we targeted our messages at those groups.

**470,000**  
We engaged with 470,000 people about safety

on mental health. In 2019 we launched a new, integrated wellbeing campaign called Working Well, comprising three elements: Mental Health, Your Energy and Support Networks. You can read more about this in the People section on page 14.

### Keeping the public safe

As a respected corporate citizen, we are committed to ensuring that no member of the public is harmed as a result of our activities. Electricity can kill, and it is our responsibility to make our operations as

safe as they can be. We are also committed to educating and communicating with the public about the dangers of electricity and how to minimise them.

Our public safety campaign, Be Bright Stay Safe, was heralded as the Campaign of the Year by Safety and Health Excellence Awards in 2019. In 2018/19 we focused on raising awareness of the dangers of electricity among the most at-risk industries that are represented by organisations such as the Road Haulage Association and the National Farmers Union.

On this page you will see how we have performed against the following Sustainable Development Goals:



**We refreshed our safety campaign for employees, Stay Safe, at the beginning of 2017/18 and continue to deliver it on multiple fronts. The three pillars of Stay Safe are:**

### Risk profiling

Risk profiling is where we identify and close the gap between what people perceive to be a risk and the reality of that risk. This involves multiple messaging and education as well as the continual challenging of assumptions and perceptions.

### Beyond Zero

Beyond Zero reasons that, if you aim for zero harm you will *sometimes* achieve zero harm. By aiming to go beyond zero, we seek to identify and tackle all the possible factors that could give rise to an occasion of harm; that way we are more likely to consistently achieve zero accidents.

### Modelling excellence

Modelling excellence is the way in which we identify and celebrate people and processes that are safety heroes. Colleagues and managers can nominate their chosen heroes and we celebrate them at a prestigious event each year. We also make sure we capture and share the lessons that the whole company can learn from these heroes.

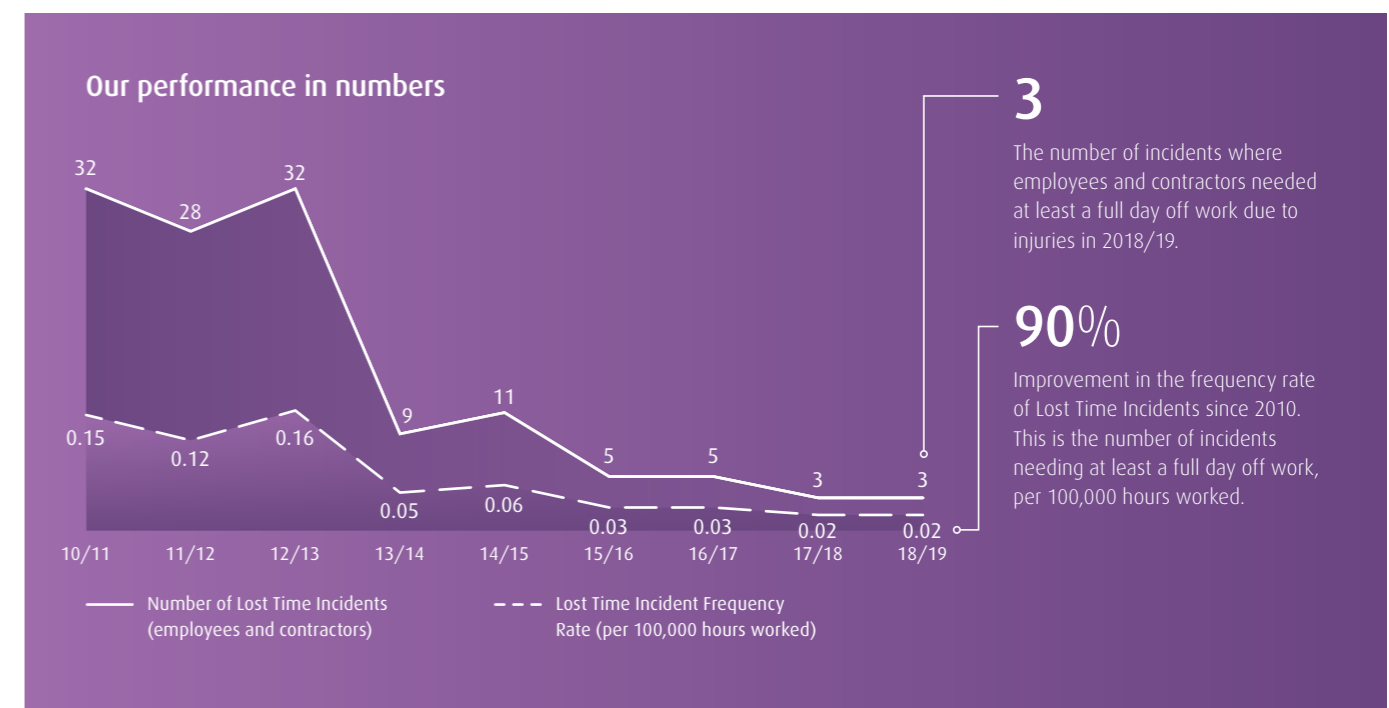
In addition, 32 organisations and associations have publicly pledged to support us by sharing our safety messages through their communication channels and promoting positive behaviours at work. We also produced animations directed at particular occupations this year. Despite a rise in the number of work-related incidents relating to electricity nationally, the figures in our area of operation show a marked decline, reflecting the success of our campaign.

As well as targeting at-risk industries, we also communicate extensively with domestic

electricity users, particularly young people. We work with schools and other organisations for young people and run informative, entertaining events for them about electricity safety and energy saving. Crucial Crew and Junior Citizens account for about 33,000 face-to-face engagements in the year. In 2019 we launched a major partnership with the Scouts and with them, we sponsor the Local Knowledge Activity Badge. This encourages scouts to stay safe around electricity and provides practical tips on how to save money on energy usage, who to contact in an emergency and what to do in a power cut.

**“**It's great to have UK Power Networks exhibiting at Farm Expo. The show is about making sure the farming community has access to the latest updates in the industry and farm safety is always an important topic. I'm looking forward to seeing what tips UK Power Networks have so our visitors can stay safe on the farm.  
**”**

**James Forknall**  
Chairman, Kent County Agricultural Society

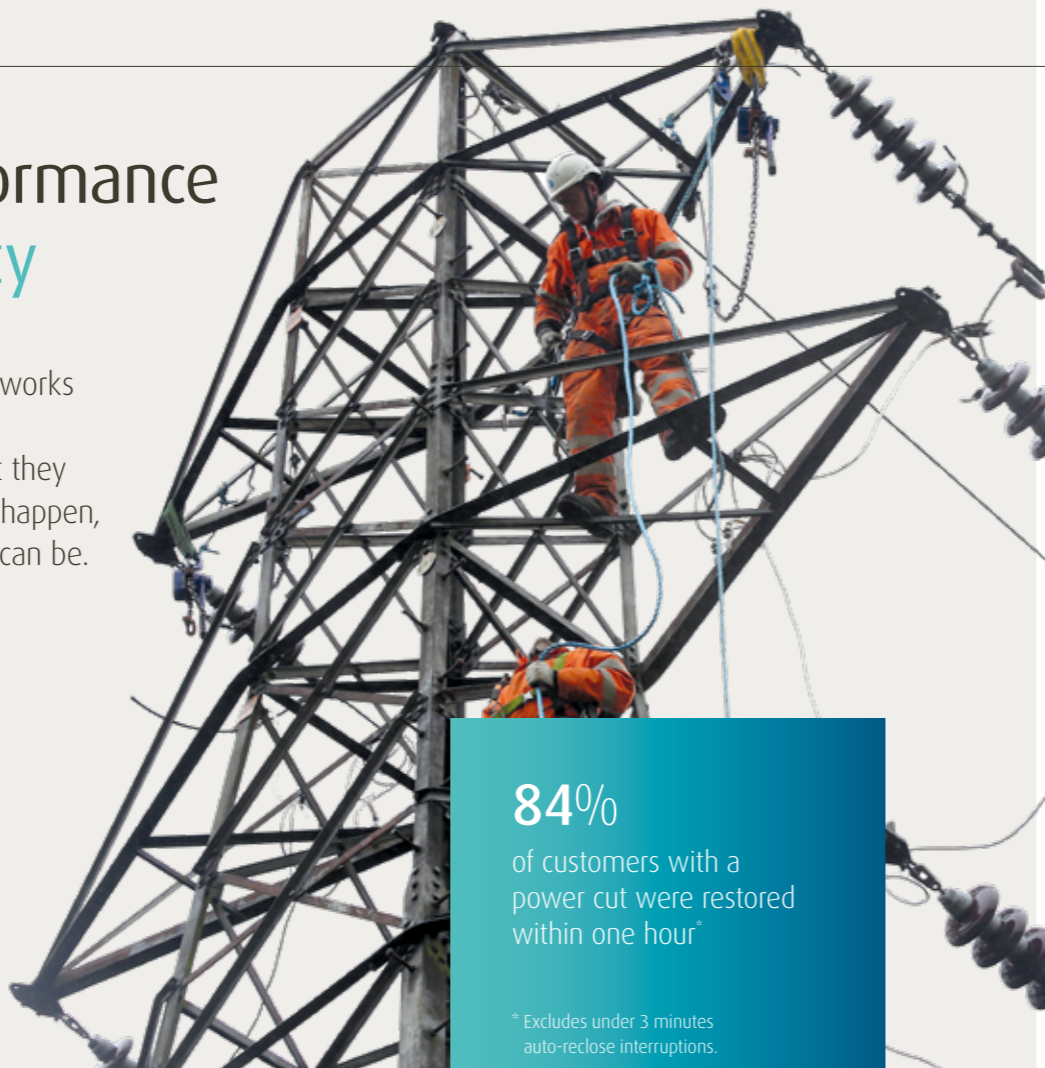




# Operational performance

## Network reliability

Customers rely on us at UK Power Networks to keep the lights on. Power cuts are inevitable, but we want to ensure that they are as rare as possible; when they do happen, we want them to be as short as they can be.



**84%**  
of customers with a power cut were restored within one hour\*


\* Excludes under 3 minutes auto-reclose interruptions.

The improvements we have made to the health of our networks since 2010/11 have resulted in a steady reduction in both the frequency and duration of power cuts throughout our networks. Our Innovation team has developed ever more sophisticated ways to prevent faults occurring in the first place and speeding up the repair process when they do. Automation and remote control have been major contributors to these improvements.


This year, on average a customer was affected for just over half an hour by a power cut.\* This is a 53% improvement since we started in business in 2010, when the average duration was an hour and four minutes. We also measure the number of customers affected by a power cut each year and this has almost halved since 2010; customers now see an interruption on average every three years compared with an average once every 18 months in 2010.

We work to improve all the factors (above right) that combine to produce our reliability measures. We tackle them one by one and in combination. Technology plays a significant part and this year we have reaped the benefits of a number of programmes that we have put in place over the last few years.


**Network reliability is influenced by factors, such as**



**The number of faults on the network**



**The number of customers who are affected**



**The length of time their power is interrupted**

### Automatic Power Restoration System

We have now completed the installation of an Automatic Power Restoration System (APRS) across the whole network. This innovative technology identifies and isolates the location of a high voltage fault and re-routes the power on the network accordingly. This means that fewer customers are affected by the fault for more than a couple of minutes.

Once the fault is isolated, we send an engineer to repair it. That way, only those customers who are directly affected by the defect are inconvenienced by a power cut of more than a couple of minutes. This system has been highly instrumental in reducing the number of customers affected by long-term power cuts in the last year by 12%.

\* The average length of time customers are without power cuts lasting three minutes or longer.

On this page you will see how we have performed against the following Sustainable Development Goals:

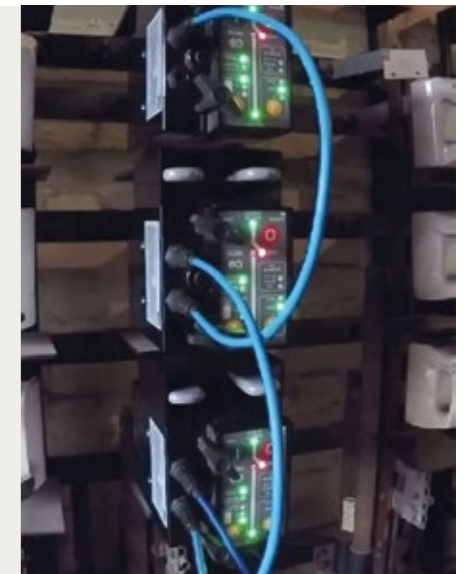


### Continuous Improvement

Technology plays an important role in the improvement of the reliability of our networks, but it is not the whole story. The way we organise and manage our operational teams has a big impact on how efficiently we repair and prevent faults. In order to make sure that this aspect of service is as good as can be, we created a new role of Head of Quality Supply in 2018/19. The purpose of this new role is to ensure that we take a company-wide view of how the network is running, and the whole business can benefit from anything we learn in any one area. We also introduced a new approach to organising our operational teams. Mission Directed Work Teams (MDWT) is a method that has proved successful in other parts of the business, such as the Logistics team, so we rolled it out in Network Operations. It helps us take an increasingly rigorous approach to gathering and analysing data about our supply performance. Information about faults and how we dealt with them – good and bad – is scrutinised; we make sure we are continually learning and improving. This, along with the increased focus brought by a dedicated Head of Quality Supply, is undoubtedly one of the factors in the continuing improvement in the reliability of our networks.

### Low voltage circuit breakers

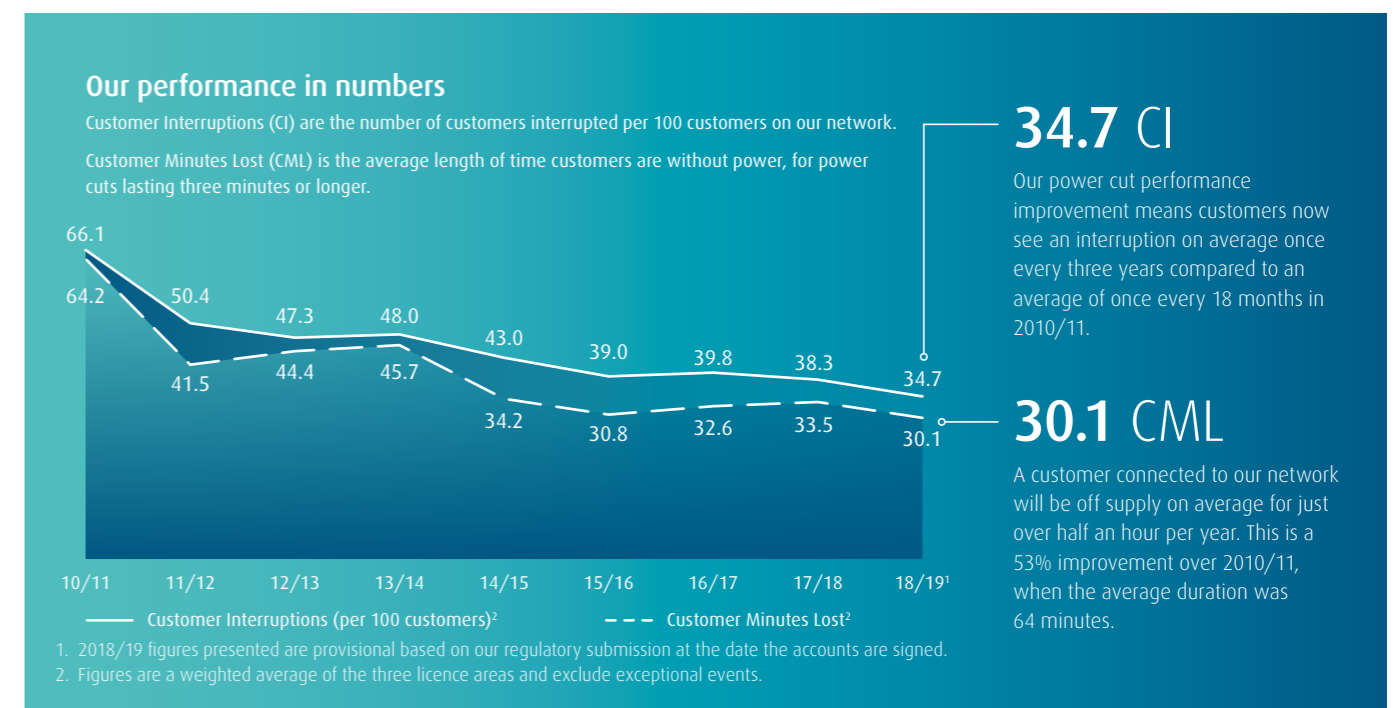
Customers told us that it is frustrating when they experience multiple unplanned disruptions due to the same recurring fault. To address this issue we worked with EA Technology to develop a low voltage circuit breaker (known as an ALVIN) which would automatically locate and self-heal faults numerous times before requiring engineer intervention. The deployment of this technology has increased, by 23%, the number of customers whose power has been restored in under three minutes following a fault.



What is not well known is that the origin of the ALVIN lies within the innovation team at UKPN. The fact that ALVINS are now saving thousands of customer lost minutes of supply is testament to UKPN's insight into the potential for the technology, as well as their persistence in seeing it through to business as usual.

The London public and citizens across the south east of England will see the benefit of a more reliable electricity network for decades to come as a result.

Robert Davis  
Group CEO, EA Technology Ltd

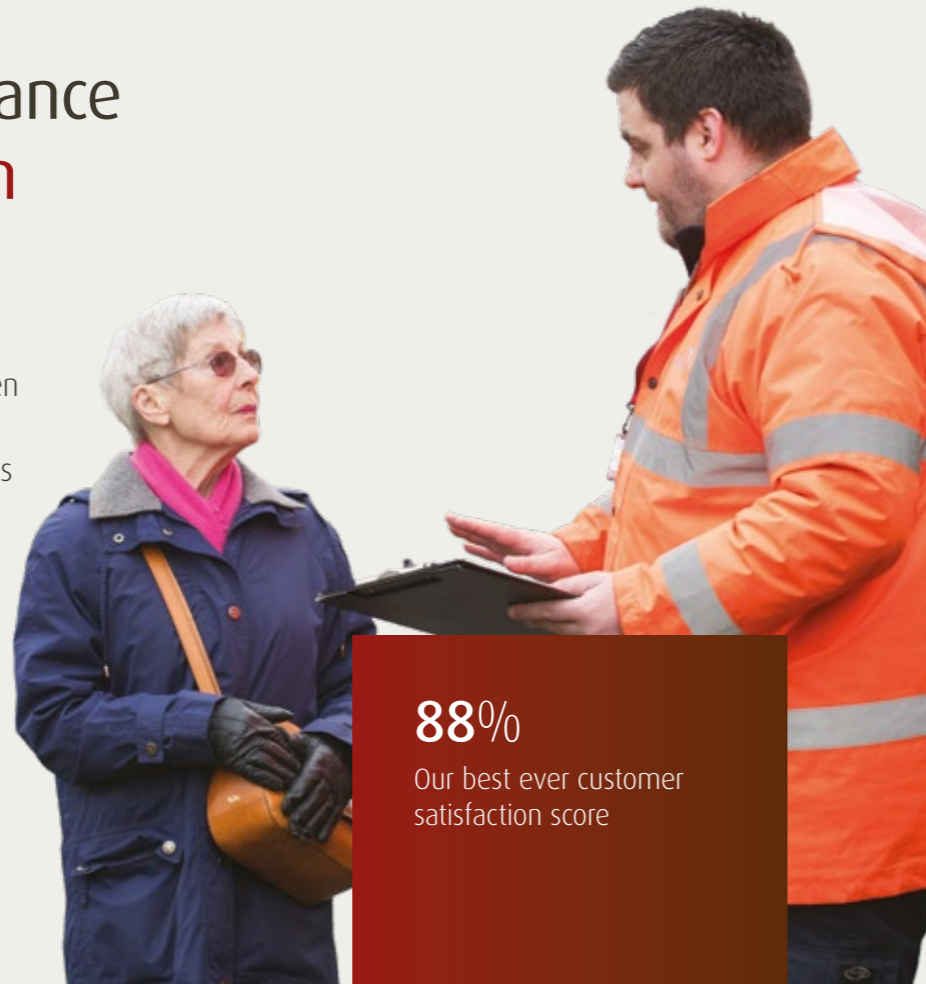




# Operational performance

## Customer satisfaction

Customers are at the heart of everything we do at UK Power Networks. We aim to provide a safe, reliable and cost-effective service. When things do go wrong, such as when customers experience a power cut, we want to put things right as quickly and smoothly as possible. Similarly, when our customers require a service from us, we aim to provide it quickly and efficiently.



**88%**  
Our best ever customer satisfaction score

**We do our best to make sure that any contact our customers have with us leaves them feeling reassured that we have listened to them and satisfied that we have responded as they would like us to. As the energy landscape changes, with the advent of renewable energy, EVs and a more complex, decentralised structure, so customer needs are changing too. Our customer service is evolving to meet these new needs, all the time remembering our core purpose, which is to keep the lights on safely and cost-effectively.**

### Real time feedback

We decided to offer a way for all customers to let us know, in real time, what they think of our service, to complement the industry measure that surveys 300 customers a week. Taking our lead from 'fin-tech' organisations and challenger energy companies, we designed a mechanism that gives us almost instant feedback. We now receive over 2,000 comments each week, all delivered within 48 hours of our contact with the customers. This year we made over 150 improvements to our power cut processes as a result. Satisfaction scores for ease of contact increased from 89% to 92%.

### Track My Power Cut

In 2017/18 we were the first DNO to introduce parcel-delivery-style tracking of power cuts, allowing customers to monitor progress of the repairs required to restore their power supply. This was one of several improvements to our website that were driven by customer and stakeholder suggestions. Based on feedback from our customers we made over 30 improvements to our website, and the customer satisfaction scores of customers who use the site was 91%, compared with a score of 88% for those who do not.

### Streamlining smart meter installations

We knew, from customer feedback, that customers were finding it inconvenient that multiple visits seemed to be necessary to complete a smart meter installation. We set about talking to the suppliers that we work with to deliver smart meter installation to find a joined-up way in which to do so. Customers told us that they want to be able to book the appointment with their supplier when our engineer is at their property.

We trialled this idea, with EDF Energy meter operators setting up meetings on site with us directly, and this is now business as usual.

We believe this has avoided 8,000 additional appointments, saving customers over 12,000 hours of unnecessary disruption. Customer satisfaction for smart meter-related work rose to 93%.

### Connections customers

Many of our business customers and some domestic customers ask us to connect them to a new power supply. This aspect of our business calls for more proactive customer service that is more about fulfilling requests than reacting to problems. We aim to provide these customers with as high a standard of service as we do for everyone we serve.

We offer our business customers technical forums, surgeries and workshops and a wealth of other resources to help them get the best from our service. As a supplier of an essential service, we also work hard to ensure that our customers have a real choice in who they ask to supply their connections. We foster a competitive environment, encouraging and offering support to our competitors, the Independent Connections Providers (ICPs) by providing training and information resources. We also make sure the competitive options are clearly visible to customers.

On this page you will see how we have performed against the following Sustainable Development Goals:



### UK Customer Satisfaction Index:

Ofgem, the energy industry's regulator, measures customer satisfaction across all DNOs. We pay close attention to this Broad Measure of Customer Satisfaction, and our scores have continued to rise steadily since the introduction of the measure in 2011/12. In 2018/19 UK Power Networks achieved 88%, our highest ever score for customer satisfaction. This year, for the first time, we featured in the Institute of Customer Service's UK Customer Satisfaction Index.

**97%**  
EV customer satisfaction score

**“** UKPN has demonstrated that the customer is at the heart of their organisation. At a time of even greater uncertainty, a sustained approach to delivering an exceptional customer experience has never been more important.

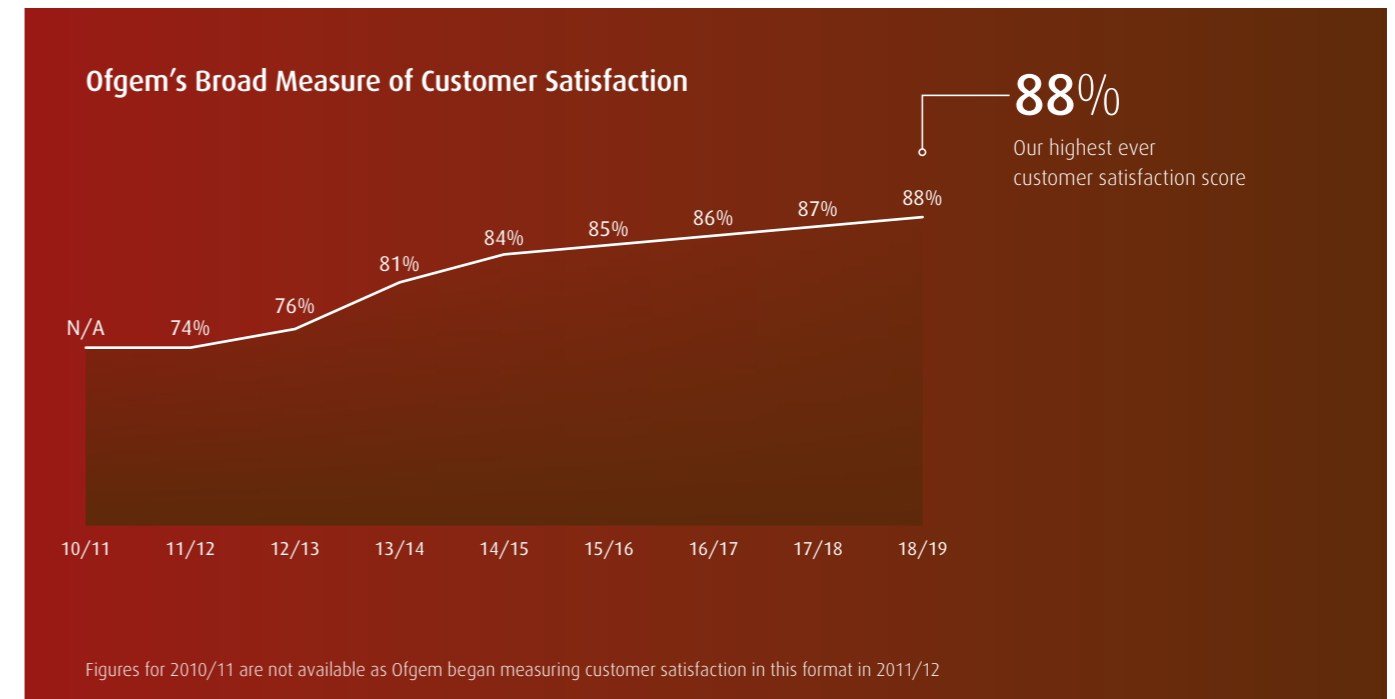
**Jo Causon**  
CEO, Institute of Customer Service



### Support for EV drivers

As we continue to prepare our business and our networks for the inevitable surge in the uptake of EVs, the demand for EV charging facilities is already rising fast. To facilitate the uptake, UK Power Networks is offering to provide – at no cost to the customers –

a fuse upgrade for those who need one to charge their EV at home. We are cultivating relationships with a raft of new types of stakeholders, such as petrol forecourt owners and car manufacturers, in order to influence the whole EV supply chain.

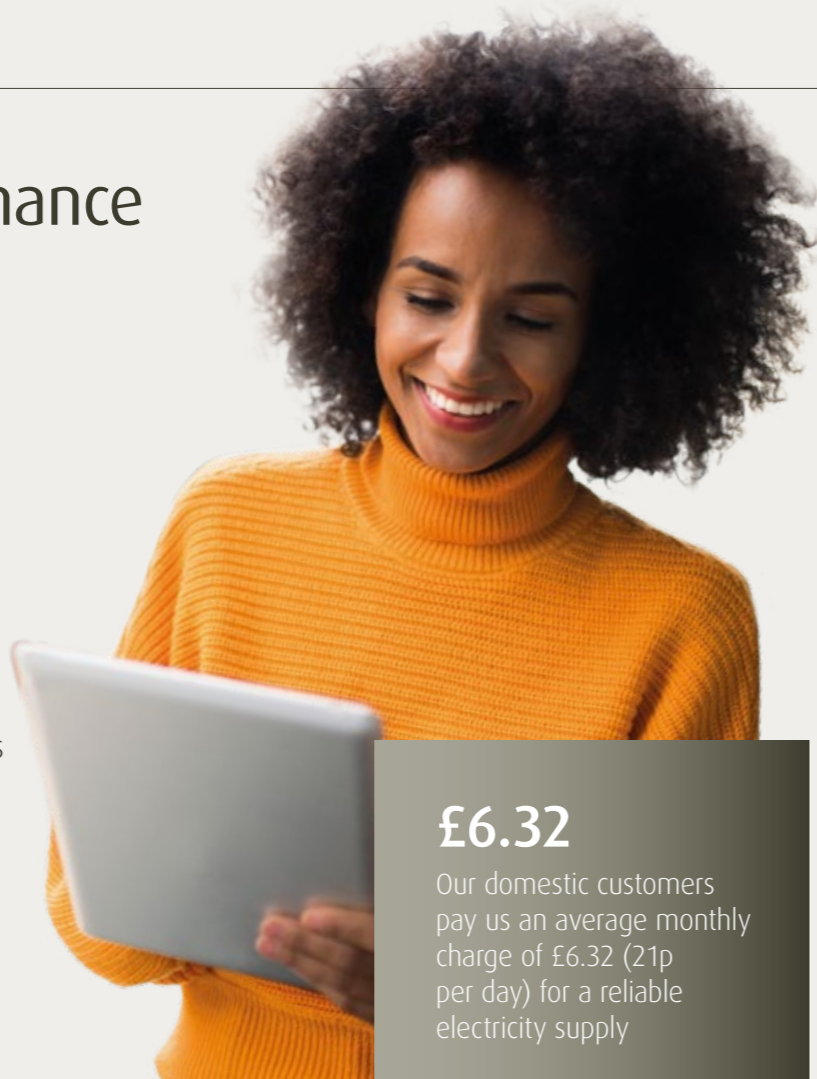




# Operational performance

## Value for money

We are aware that every pound we spend is a pound of our customers' money. We are focused on delivering great services to our customers at the lowest cost possible and we are constantly looking for ways to improve our efficiency. Building capacity on the network is expensive, so this year we have focused on how we can reduce such spending by buying services from customers to provide more capacity, for example from generators or battery storage operators, rather than building it ourselves.



**£6.32**  
Our domestic customers pay us an average monthly charge of £6.32 (21p per day) for a reliable electricity supply

**We are proud that we remain the lowest cost DNO and that our efforts over the first four years of RIIO-ED1 have saved our customers £276m. Over the whole RIIO-ED1 period (2015-2023) we are forecasting that we will save our customers £423m (2017/18 prices); that's over 70% of the total savings forecast by Great Britain's entire electricity distribution industry.**

### Helping address fuel poverty

In our Social Responsibility section on page 28, we highlight the work we are doing to help our customers who are in fuel poverty, by providing them with advice on how to be more energy efficient and so save money. Our energy-efficiency advice is about being a force for good and empowering communities to share our advice more widely. For example, we have trained over 423 support workers who care for people with mental health difficulties or are undergoing kidney treatment. These support workers share our energy efficiency advice with the people they care for.

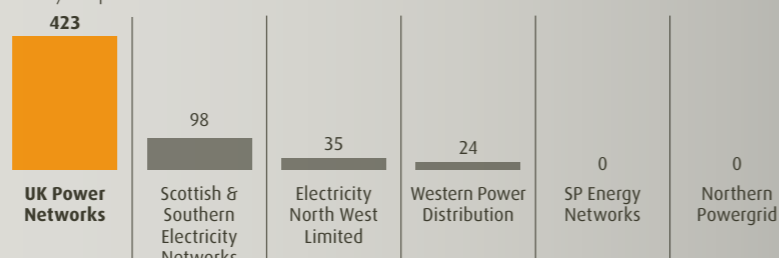
A key focus this year was to expand Money Buzz, an interactive workshop designed for 9-11 year olds at schools where on average about half of pupils are eligible for a Pupil Premium Grant. This targeting ensures that the programme reaches children from low income families whose energy costs are a significant proportion of family income. MyBnk also trained additional trainers to build capacity to deliver 45 workshops, reaching approximately 1,100 children throughout the 2018/19 academic year.

### Enabling our customers to benefit financially from the energy transition

In the Innovation section on page 35 we showcase the work that we are doing to understand whether we can pay customers to reduce their demand or generate more, rather than invest in new capacity. We estimate that our market for these services could be more than 200MW, the equivalent of powering 100,000 homes. In 2018/19, we ran our largest tender yet, awarding contracts for 18MW of additional flexible capacity. We are spending less than £0.5m on these contracts, which allows us to defer the installation of costly new or additional capacity.

### Forecast customer savings over RIIO-ED1 period (2015-23) (£m)

2017/18 prices



Source: 2017/18 Ofgem Annual Report

On this page you will see how we have performed against the following Sustainable Development Goals:



Our innovative concept of timed-connections allows London's buses to charge in a controlled manner when network demand is lower. This new product has delivered over **£1.6m in savings**, an 80% reduction in the connection costs at the Camberwell and Shepherd's Bush bus garages alone. This makes more electric bus routes viable and is accelerating the electrification of London's transport infrastructure. There are now more than 150 fully electrified buses operating across 12 routes from six garages across London, enabling 18.5 million carbon emission free passenger journeys in a year.



UKPN's expertise was invaluable and it was a very useful and insightful study. The cost outputs have fed into the continued development of our roadmap to deliver a zero emission bus fleet by 2037.

**Tom Cunnington**  
Head of Bus Business Development,  
Transport for London



### Saving customers £40m through whole systems thinking and cooperation

UK Power Networks formed and led a project team with fellow DNOs Western Power Distribution and Scottish & Southern Power Networks to implement a plan to move 800MW of renewable generation to a more resilient protection system. We engaged with 250 strategically located generation sites across our three networks to propose the switch and engaged widely through a range of media. The overwhelming response far exceeded our targets, with 200 sites offering to switch 1.4GW (1,400MW) of capacity. Working with our network operator colleagues we moved 70 sites and around 800MW of generation to a more resilient protection system, thus resolving the immediate regional issue. We saved our customers £40m, which was the cost of resolving the sudden changes in supply and demand.

### Annual domestic charges (2018/19)

Domestic unrestricted customers based on average annual consumption of 3,100 kWh





# Operational performance

## Social responsibility

We never forget that our customers can't choose who provides their power network. Operating as a DNO is a privilege that brings enormous responsibility. In 2016/17 we made a commitment to our customers and employees to be the most socially responsible DNO. The transition to a decentralised, digitised and decarbonised energy system makes this an ever more pressing priority. We are working hard to make sure that everyone is able to benefit from the advantages this revolution will bring to customers. We will do all that we can to make sure no one is left behind.



**Winner**  
Utility Week winner for Customer Care – supporting customers in vulnerable circumstances

The Priority Services Register (PSR) is the primary way in which we identify and support customers whose circumstances mean they are more dependent than most on a reliable source of electricity. People are eligible for this support if they are in poor health or their circumstances – temporary or permanent – meaning they need extra help with their utilities. Fuel poverty is often linked to other vulnerable circumstances and we work hard to ensure that the extra services that we provide make a real difference to those for whom fuel bills are a disproportionate amount of their living costs. In December 2018 Utility Week recognised us for our continuing work in this area, with the award for Customer Care: supporting customers in vulnerable circumstances.

### Fair and inclusive

Underpinning our commitment to meeting the needs of our customers in vulnerable circumstances is the drive to be fair and inclusive. We aim to do all we can to ensure that everyone has access to the same advantages, services and benefits, regardless of their circumstances.



### Community energy

Community energy companies are vital in helping local communities access the benefits of renewable energy. UK Power Networks has built strong and enduring relationships with such organisations across its operations. Through these partnerships we learnt that community energy groups were having difficulty getting projects off the ground. This was limiting their ability to become involved in supplying renewable energy to our networks. To address this, we commissioned research to capture the views of community energy groups in our region and to understand how we can provide support to make their projects viable, particularly addressing the role of local authorities. This year we helped launch five community energy schemes, providing financial support and technical expertise as well as promoting the revenue opportunities that are open to communities via our network flexibility.

On this page you will see how we have performed against the following Sustainable Development Goals:




### Safety video in Makaton

This year, in order to make our service even more accessible, we explicitly addressed the needs of customers with cognitive or learning disabilities with regard to safety around electricity. We produced a video in Makaton about how to stay safe when you are using electricity or when you are close to it. Makaton is a language programme that uses signs and symbols to help people to communicate. The video is available on our website and we have distributed it to Adult Learning Centres and schools that would find it useful.

### Research with the Energy Savings Trust

In 2018/19 we commissioned a wide-ranging research project with the Energy Saving Trust to examine the implications of changes in the energy market on consumer vulnerability. The study examined the impact of new technology and developments in the energy market on customers, especially those in vulnerable circumstances. It has improved our understanding of the obstacles these customers may need to overcome in order to benefit from the advantages that smart energy offers. It will guide our thinking and help us remove as many of those barriers as we can as we develop our social role in the course of our transition to being a Distribution System Operator.

The research findings led us to consider, for example, the implications of the introduction of EVs for people with mobility problems. We engaged with a new partner, Motability, which has specialist knowledge about the issues faced by a subset of customers in vulnerable circumstances – namely those who are eligible for mobility allowance – when they approach the decision to switch to an EV. This knowledge was invaluable to us in developing a targeted response to support these customers who are considering 'going electric' and also opened up a new referral network for our PSR.

### Vulnerability mapping

Gathering and analysing data means we can plan and provide the right services to the people who need them. Our experience tells us that using data appropriately can unlock new levels of insight into how we can deliver tailored support to our customers. At the heart of our data usage is our industry-leading vulnerability mapping tool. Built in 2014 in partnership with National Energy Action (NEA), the tool aggregates over 60 data sets, drawn from sources such as the Census and Department for Work and Pensions data.

Our planners take into account the information it provides when they develop their work programme. For example, when planning work in the winter months they will keep such work to a minimum, limiting disruption to those who have a greater reliance than average on their electricity supply. It also helps us direct our support where it is most needed. For example, if a customer services team sees a high concentration of medically dependent customers affected by a power cut, they will prioritise the deployment of generators to that area.

### Fuel poverty

Data from the Department for Business, Energy and Industrial Strategy (BEIS) told us that almost a million of the households we serve are in fuel poverty. We know that means they have to make the painful choice between eating and heating and we recognise our responsibility to help tackle this. We do so on three fronts: by being the lowest cost DNO, by working with trusted partners to provide energy efficiency advice to those in fuel poverty, and by providing face-to-face advice to individual customers who are most in need.

In 2018/19 we were again the lowest cost DNO. Our customers pay 10% less than the average DNO customer in Great Britain and 22% less than the highest. We helped more than 4,000 customers through face-to-face, personalised support on how to reduce energy bills, saving them a total of £1.1m; and we provided energy efficiency advice to 520,000 households on the PSR, saving them £8.7m.

**1.8m** customers on the Priority Services Register (21% growth compared to last year)

**£9.8m** savings to our Priority Services Register customers through energy efficiency advice

**94%** satisfaction score among customers on the Priority Services Register

“ I strongly support the work of community energy companies on several important fronts. They are playing their part in getting more low-carbon energy into the system while helping some of our most vulnerable residents. I'm delighted to see UK Power Networks forging closer links with community energy groups, including the important work they are doing in my own constituency of Hastings and Rye with Energise Sussex Coast.

**Rt Hon Amber Rudd MP**  
Member of Parliament for Hastings and Rye



# Operational performance

## Environment

UK Power Networks is a standard bearer in facilitating the transition to a low-carbon economy. Most of the innovations that we pioneer support that cause, from preparing the way for the mass uptake of EVs to enabling low cost, easy access to renewable energy across our networks.



**21%**  
reduction in our Business Carbon Footprint since our baseline year of 2014/15

Supporting the transition to a low-carbon economy is our greatest contribution to protecting the environment. We also take responsibility for our own carbon footprint and continually look for ways to reduce the environmental impact of our business.

**99.9%**  
In 2018/19, we recycled 99.9% of the waste from street-works

**Our Green Action Plan has three elements:**

- Minimise our impact**
- Lead by example**
- Support the transition to a low-carbon economy**

It is our vision to be the most environmentally responsible DNO. To enable us to achieve this vision, in March 2019, we launched our Green Action Plan. We are taking a long-term view of our environmental responsibilities and it is our aim to lead the field whenever we can. As with many of our activities, we make a point of collaborating with and learning from not only our industry peers but the wider world. This year we are able to report strong performance against the stretching targets we set ourselves.

**Carbon**  
We continue to exceed our RII0-ED1 Business Carbon Footprint (BCF) commitment to a reduction of 16% by 2023. Since the baseline year 2014/15 we have reduced our BCF by 21% through various measures. The reduction in carbon intensity of electricity – that we have helped facilitate – is a key factor in this, but we have introduced a number of improvements that also contribute to this continuous improvement. For example, we have introduced LED lighting throughout our operations and, where practical, we have consolidated our buildings to reduce energy usage.

On this page you will see how we have performed against the following Sustainable Development Goals:

We have an ongoing programme for modernisation of the vehicles that make up our operational fleet. We also introduced mobile devices called Tough Pads that means our field staff are able to receive diagrams and work plans on the go and reduce the amount of travel to and from remote sites. These two measures helped us reduce the carbon output of our operations. We are working hard to introduce more EVs to our fleet and, in London in particular, this is proving successful. We are constrained, however, in how far we can take this at the moment. The vehicle types that are essential to our work are not yet available as EVs. They do not have the load carrying ability required to be able to transport the equipment our engineers need. As soon as it is feasible, we will harness this technology to deploy additional EVs.

**Waste avoidance from landfill**  
We are exceeding our RII0-ED1 commitments regarding waste, sending over 99% of our street-works spoil for treatment and reuse and over 90% of our office and depot waste is diverted from landfill. During 2018/19 we began to focus on raising awareness around office waste by launching a recycling campaign, 'Talking Rubbish'. We are also working with the Carbon Trust to achieve accreditation for waste reduction year on year. Our stakeholders told us loud and clear that we should do more to reduce our use of plastic and to reuse it wherever possible. We responded to this challenge and, among many other things, reduced by 200,000 the number of single use plastic water bottles that we distribute to our employees. We now provide them with aluminium or durable, reusable plastic bottles.

Our employees also identified resin buckets as high value items that could be reused or recycled by our waste management contractor. Following a trial in September 2018, we now recycle the 63,000 resin buckets that we use every year.

**“**  
It was great to have a tour of the main electrical substation in Brighton and to see the recent £1.2 million investment in the Brighton electricity network. I was pleased to hear about the work UK Power Networks is doing to help support renewable energy generation and electric vehicles on the network, to achieve a decarbonised and decentralised energy system.

**Caroline Lucas MP**  
Member of Parliament for Brighton Pavilion



**Green Action Plan**  
As part of our vision to be the most environmentally responsible DNO we published a Green Action Plan, with clear, wide-reaching targets and milestones to enable us to achieve that vision. We consulted our stakeholders and they encouraged us to set ourselves targets that exceed our RII0-ED1 business plan commitments. We believe this puts us at the forefront of our peer group and indeed our industry in general for environmental responsibility. The targets cover environmental accreditations, carbon emissions, energy reduction, waste recycling and reduction, proactive noise nuisance management, air quality and biodiversity improvements.

Our approach to biodiversity is a good example of how we lead in our sector. We made a commitment in 2019 to increase biodiversity value by 30% across 100 sites on our networks. Using a tool developed by Defra, and with the help of our ecology consultants, we will be able to measure and track our performance in this area, identifying biodiversity value and the potential of land to host diverse flora and fauna. We have so far identified more than 50 sites with potential where we will begin site surveys to determine their baseline values.

We focus closely on air quality. Our work with Transport for London (TfL) and fleet operators such as Uber and UPS are central to our drive to improve air quality, but we also aim to reduce emissions from our own fleet and generators. Mirroring the government's timescale, we have committed to reducing our own corporate nitrous oxide emissions by 33% by 2030. This will be achieved through the transition of our fleet and generators when new technology becomes available to enable us to move to EVs and alternative fuels.





# Operational performance

## Stakeholder engagement

At UK Power Networks we go out of our way to listen to our stakeholders, understand their needs, and do everything we can to meet those needs. We have an extensive and embedded engagement programme along with an exhaustive range of methods of communicating with our stakeholders. This helps us to adapt our business to the ever-changing needs of all our customers and stakeholders.



**We engage with our stakeholders so we can deliver better outcomes for them. Effective engagement allows us to create new services for our customers or improve existing ones. It provides us with feedback that allows us to challenge and shape our projects, strategies and vision for the company. It also helps us to learn from other businesses and industries and to adapt and apply innovative practices to create more value for our customers.**

Our stakeholders help us to keep our high-level strategy in line with their priorities. For example, it was stakeholders who highlighted the lack of explicit commitment to protecting the environment in our company vision.

When they did so, we amended our vision to reflect this priority. Stakeholders also steered us towards the four areas on which they want us to focus our efforts.

The focus areas and an example of the type of outcome we have delivered for our stakeholders is detailed in the table below:

Focus areas	Example outcome
Meeting our customers' needs	100% delivery on our new EV Service Level Agreement despite a 250% increase in enquiries
Caring about the environment	67% reduction in power required to electrify 9,300 London buses. That's equivalent to 11% of London's peak demand
Going above and beyond for our communities	50% reduction in overall injuries across all targeted high-risk groups
Supporting our vulnerable customers	£8.7m saved for customers on the Priority Services Register thanks to energy advice provided to 520,000 households

On this page you will see how we have performed against the following Sustainable Development Goals:



### EV strategy

In 2018/19, we undertook a detailed stakeholder mapping exercise to help us understand the extent of the complexity of the new world of transport. Building on our engagement, we held 32 external stakeholder events on the subject of EVs, reaching over 7,000 people, learning from them and sharing our best practice with them. We held 14 forums with a dedicated EV section offering 400 customers specialist advice. Over 200 customers attended our new EV master classes where we answer customers' questions in an accessible, straightforward way.



### Broader and deeper engagement

In 2018/19 we engaged face-to-face with over 54,000 stakeholders using over twenty engagement mechanisms. This programme has resulted in 270 outcomes that benefit our customers, and these outcomes are the reason we engage with our stakeholders. We have invested in innovative technology that collects over 2,000 customer comments a week within 48 hours of our serving them. In 2018/19 this real time feedback project bore fruit in terms of tangible actions emerging from over 100,000 items of feedback we received in the last year. This invaluable insight has resulted in over 150 improvements to our power cut processes. For example, customers told us that the options on our telephone systems menu were not clear, so they could be caught in a loop. We mapped the customer journeys, looking carefully at where the dead-ends and glitches were. We then clarified the wording and made it easier to understand. As a result, customers found the system easier to navigate and satisfaction scores for ease of contact increased from 89% to 92%.

### EV engagement

Through engagement, we identified the potential impact of EVs and the need to put long-term measures in place to facilitate their adoption. That means preparing the infrastructure and helping educate potential business and domestic users, so the market is ready when the transition begins to happen at scale. In 2017 UK Power Networks was the first DNO to publish an EV Strategy.

Our engagement on the subject of EVs demonstrates our approach to engaging with stakeholders in practice. Our starting point is that facilitating a low-carbon economy is a strategic imperative for us, and EVs are a significant factor in this revolution. That applies to public transport and commercial fleets as much as to private vehicles. Further, as the DNO covering London, UK Power Networks is committed to playing a key role in improving the city's air quality, and EVs are crucial to that objective.

Our engagement with fleet businesses on the future of EVs led us to refine the segmentation of this group into three locations for charging their EV: at home, at work and en route.

This additional granularity enables us to plan the development of our networks in the most efficient way and to provide better connection advice to these customers. The idea for one of the largest commercial EV fleet trials in the UK arose from engagement with fleet operators. Led by Hitachi Capital and involving Royal Mail, Uber, Centrica and UK Power Networks, this EV trial will involve over 3,000 vehicles and will provide invaluable insight to the future of commercial EVs.

**“** By listening to energy retailers and taking this customer-centric approach to smart charging, instead of a 'command and control' model, UK Power Networks is demonstrating real innovation and leadership.

**Greg Jackson**  
CEO, Octopus Energy





# Operational performance Innovation

The electricity distribution landscape is changing profoundly, and innovation is the engine that is driving the revolution. Innovation is a vital element in UK Power Networks' vision to be the best DNO in the UK, and we are leading the industry in its transition to a digitised, decentralised and decarbonised future, which is powered increasingly by renewable energy sources. We are mindful of the need to ensure that all our customers are able to benefit from this transition in the energy market.



**£183m**  
smart savings delivered to customers since the beginning of the current regulatory price control period in 2015, which is many times more than any other UK electricity network.

This year we undertook a major research project in association with the Energy Saving Trust that explored the implications of the new energy landscape in order to identify and mitigate possible new areas of inequality that may arise from the new technology. We want to make sure that no one is left behind in the exciting world of future energy.

We are the most innovative of all the DNOs in the UK, but we do not pursue innovation for its own sake; it has to benefit our customers. UK Power Networks' innovation initiatives have saved customers £183m since 2015, at the beginning of the current regulatory price control period, and we have taken 30 innovative solutions into business as usual in the same time frame.

## Using artificial intelligence to improve network reliability

Synaps is an innovation project that will, for the first time, use leading-edge artificial intelligence (AI) technology and 'big data' to improve network reliability. If the trial is successful and rolled out across the network, it could help halve the number of power cuts.

The project will enable engineers to use a library of 'big data' drawn from the network, in conjunction with AI, to predict and locate potential faults on network equipment before they occur. UK Power Networks is working with Powerline Technologies, who have developed a solution that will build a library of all the measurements the technology makes.

The technology works by analysing the waveforms of the electricity voltage an incredible 100,000 times per second, identifying when anything slightly unusual is happening in the cables.

AI then compares each new measurement to the vast library of data and spots any trends, patterns or irregularities.

### Our innovation strategy has three strands:



#### Efficient and Effective

We develop equipment and processes that help us keep the lights on in a way that is safer, more efficient and/or more environmentally sustainable.



#### Low-carbon Ready

We make it easy for low-carbon technology such as EVs, renewable energy and domestic or commercial storage to connect to our network.



#### Future-ready

We develop a future-ready business that meets the needs of tomorrow's customers.

On this page you will see how we have performed against the following Sustainable Development Goals:



Over time, the machine will build up its knowledge and 'learn' to recognise conditions that can cause a fault on the electricity network.

The project is funded under Ofgem's Network Innovation Allowance and we are working in partnership with Scottish and Southern Electricity Networks (SSEN), Powerline Technologies, the Energy Innovation Centre and the Power Networks Demonstration Centre. The project will take 14 months and will cost £680k.

### Network flexibility – a fundamental shift in power distribution

Utilising network flexibility is a key approach to help us minimise costs to customers while ensuring that there is sufficient capacity to meet their demand for electricity.

When an area needs more power, we will calculate whether it is cheaper for us to build new infrastructure to provide additional capacity or pay distributed energy resources (DER) connected to our networks, such as generators or battery storage operators, to provide it. If it is cheaper to buy more capacity, we will take this option. This is a fundamental shift in the way DNOs operate. In 2018 we became the first DNO to commit 100% to a flexibility first approach for all our new capacity requirements on our higher voltage networks.

We like to think differently, and our innovation didn't stop there. We wanted to make the system more accessible to smaller DER. We worked with a start-up company called Piclo to develop and commercialise an online flexibility services trading platform which makes it simpler for such providers to understand our needs and participate in market tenders. Piclo is now used by DNOs across the country.



UK Power Networks was the first DNO to recognise the value in working with an independent market platform to lower barriers and increase transparency for customers. UKPN have shown real leadership and as a result we are seeing exciting levels of participation on the platform, including the hard-to-reach, such as community groups.

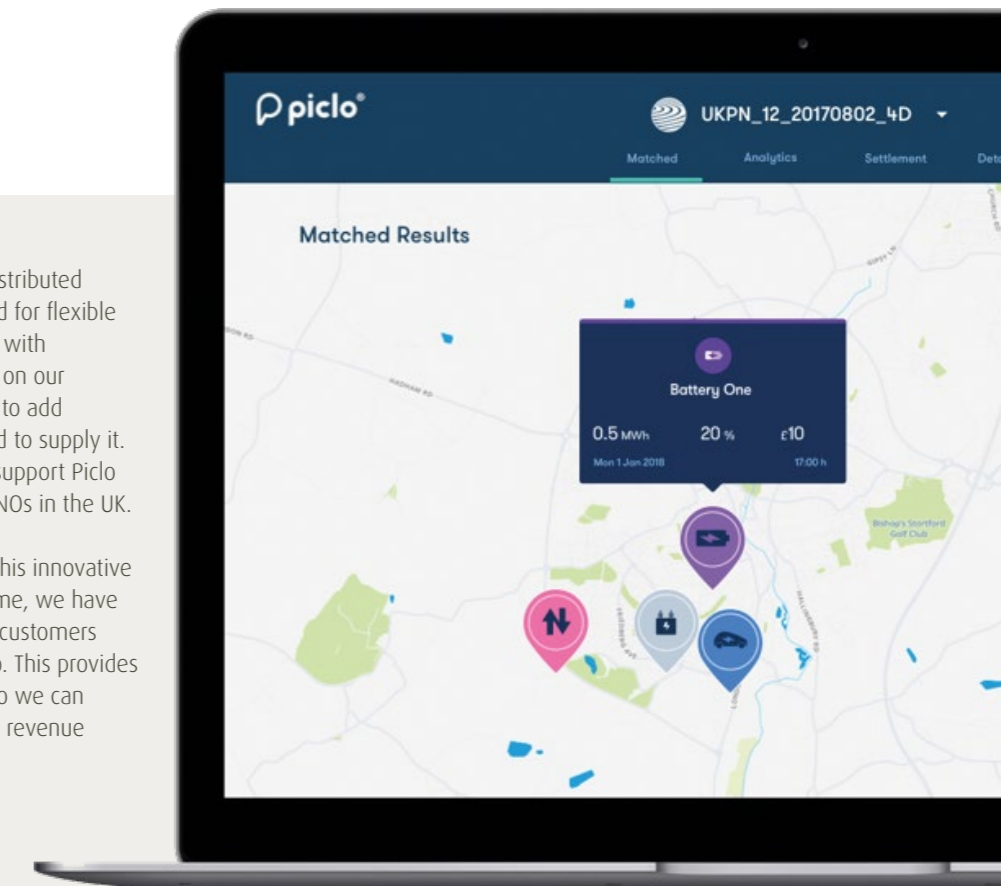
**James Johnston**  
CEO and Co-founder, Piclo



### Piclo

Piclo is an online platform that matches distributed energy resources (DER) with the local need for flexible energy resources. It allows DER customers with renewable energy to see the pinch-points on our network – which is where we are seeking to add capacity – and gives them the ability to bid to supply it. UK Power Networks was the first DNO to support Piclo and the platform is now used by all the DNOs in the UK.

UK Power Networks has been promoting this innovative trading platform since 2018 and, in that time, we have seen a 6,000% increase in the number of customers registering their generation assets on Piclo. This provides benefits all round: more resources for us so we can manage our network more efficiently, and revenue opportunities for our DER customers.





# Operational performance

## Low-carbon economy

The transition to a low-carbon future is revolutionising the way we produce, distribute and consume electricity. The volume of carbon emitted in producing electricity in Britain has fallen 40% in the last six years. Ever more renewable energy sources are connecting to our networks (over 7GW connected between 2011 and 2018) and consumers are beginning to engage proactively in the energy market, generating, storing and trading their own electricity.



**Ranked 1st**

in Europe and 3rd globally in the Singapore Power Group's Smart Grid Index

Recent technological developments around EVs, combined with government incentives, are accelerating the uptake of EVs in the UK. In just 12 months (from March 2018 to February 2019) we have seen a 44% increase in the number of charge points across the UK, of which 52% were installed in UK Power Networks' licence areas. Up to 4.1 million EVs are expected to be on the road across our networks by 2030.

Global climate change and air quality challenges are driving these developments. Government decarbonisation policies and wider environmental targets, along with advances in energy generation and battery technologies and decreasing costs are together making the low-carbon economy a reality. We have a key role to play in facilitating the transition to a low-carbon energy system and the electrification of transport and heat. Ultimately, this will reduce carbon emissions and improve air quality for the communities we serve.

### Electric vehicles

Four years ago, there were just 8,500 EVs in our area of operation. Now there are 60,000, and we forecast that there can be over four million by 2030. We relish the challenge of enabling the electric transport revolution and will deliver this through our industry-leading EV readiness strategy.

### A smart grid for all – how we're decarbonising electricity

Renewable energy from wind and solar, connected to local, low voltage distribution networks is the future of electricity. Our innovative solutions are enabling the UK to decarbonise and decentralise its electricity network. Working with customers who are

On this page you will see how we have performed against the following Sustainable Development Goals:





### Improving London's air quality

It is Transport for London's (TfL's) ambition to convert all London buses to zero emission by 2030. This would have required an additional 830 MVA of new capacity, equivalent to 20% of London's electricity demand. Working with TfL, we took a London-wide view of the network and found an innovative way to reconfigure it to reduce the capacity requirement by 67% and so avoid the

multi-million-pound upgrades that a conventional approach would have required.

There are now more than 150 fully electrified buses operating across 12 routes from six garages across London, enabling 18.5 million carbon emission free passenger journeys in a year.

also renewable energy generators, we are designing the future electricity system. We developed Flexible Distributed Generation (FDG), which allows generators to connect to the network for a much lower up-front cost in return for agreeing to export less electricity to the network at the few times of the year where supply exceeds demand. To date this solution has saved our customers more than £70m and in the financial year 2017/18 saved 20,394 tonnes of CO<sub>2</sub>, equivalent to the environmental benefit of about 250,000 trees. Having cut the cost of connecting to our network, we moved on to looking at how we could get more from those renewables on our network. Often the locations that are best-suited to renewable energy generation are also places where there is a relatively low demand for electricity. This was the case in East Kent on the south coast of England, which has large amounts of wind power connected off-shore and supply often exceeds demand.

To solve this, in 2018 we completed a project called Kent Active System Management (KASM). KASM is a forecasting and analysis tool that's designed to give our control room engineers the confidence they need to safely allow more renewable energy than ever before onto our network from those who are already connected.

We then looked at ways of creating value streams for our generator-customers. In 2018 we began trials on Power Potential, a world-first project to create a new market for owners of renewable assets to sell their services to the national transmission system.

Power Potential could facilitate an additional 3.72GW of network capacity in the south east of England by 2050 – equivalent to 960,000 homes installing rooftop solar panels – and save consumers over £500m if rolled out nationally.

In October 2018, UK Power Networks was ranked first in Europe and third in the world on the Singapore Power Group's Smart Grid Index, and was cited as a best-practice example for 'customer satisfaction and empowerment' and 'monitoring and control'.

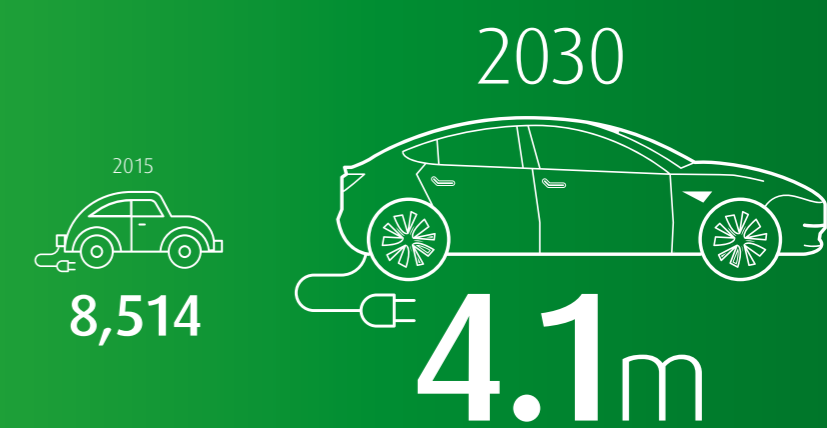
### Our three-strand EV strategy

- **Best-in-class forecasting**  
We are developing industry-leading forecasting tools through projects such as Recharge the Future so we can predict, to an unprecedented level of detail, when and where EV-related load will increase on our network.
- We are also investing £41m over four years in **targeted granular network monitoring**. This means we are installing strategically-targeted low voltage monitoring in substations that we forecast will be affected by EV load. We will install 600 monitoring devices in 2019.
- Finally, we are **developing smart solutions to deploy on our network** instead of automatically building more infrastructure. This includes the cutting-edge smart charging trials where we incentivise customers to charge their EVs off peak, when overall demand is lower.

“ I am pleased to hear that Transport for London are working closely with the UKPN Team to upgrade and enable power to many locations across London. I would also like to thank them for their continuing efforts in the support and advancement of our strategy for London to have zero carbon transport by 2050.

**Shirley Rodrigues**  
Deputy Mayor of London  
for Energy and Environment

**By 2030, over four million electric vehicles are forecast to be on our networks**



2015: 8,514  
2030: 4.1m

Source: UK Power Networks' analytics



# UK Power Networks Services

UK Power Networks Services is the commercial arm of the group that manages private energy networks and delivers major national infrastructure projects. This part of the business works for clients on a competitive, commercial basis and is separate from the regulated business of UK Power Networks.

Some of the most crucial services in the country, such as rail networks, airports, utilities, defence and complex property developments, rely on the services and solutions that we deliver. We help clients to increase the productivity of their assets, decarbonise their infrastructure and increase the value of their power distribution networks.



## Delivering safety performance

Achieved more than three years and **3.2 million** hours worked without a lost time injury (as at 31 March 2019)

**UK Power Networks Services accounts for approximately one tenth of the whole group, and both the regulated and unregulated sides of the business focus on supporting and facilitating the low-carbon economy.**

Our work at Manchester Airport reinforced our position as the leading provider of network services to the UK's airports. We built the electricity infrastructure to enable the introduction of modern electric trains to the Great Western mainline route from Maidenhead to Cardiff. The project, which won Innovation of the Year at the National Rail Awards, was a collaboration between UK Power Networks Services, ABB, Siemens and Network Rail Infrastructure Projects. The project will deliver cost savings in the procurement, installation and maintenance of the electrification system.

### Manchester Airport

Manchester Airport, the third largest in the UK, is undertaking a £1 billion transformation project to support its ambitious expansion plans. Its owners, the Manchester Airports Group, commissioned UK Power Networks Services to provide vital power infrastructure that will allow it to fulfil those ambitions.



Central to the project is a new airfield substation that UK Power Networks Services is building away from the taxiways. It is also transferring the critical electrical infrastructure from the existing substation that is currently located in the middle of a taxiway. All runway lights, control tower and airport telecommunications are served by the substation.

The existing position of the substation means that planes have to operate on a 'one-in, one-out' basis. Moving the infrastructure to a location away from the taxiways will allow the airport to expand

the number of runways, meaning it can increase the volume of aircraft traffic and the capacity of the airport.

This is an immensely complex infrastructure project that will be carried out in the middle of a busy working airport. UK Power Networks Services' track record of managing electrical networks for the UK's five busiest airports, along with its second-to-none safety record, gave the Manchester Airports Group the confidence to appoint the company to undertake this crucial project.

### Our clients

Our portfolio includes a range of high-profile organisations from both the public and private sectors, including five of London's airports, High Speed 1, Network Rail, London Underground, Southern Water, Aspire (Ministry of Defence) and Canary Wharf.



### Accreditations

Our accreditations reflect our world-class engineering capability, safety and quality record, and enable our work with the UK's leading companies.



### Awards

**Innovation of the Year**  
UK Power Networks Services' Rationalised Autotransformer System project won the 'Innovation of the Year' at the National Rail Awards.

**Business Green Technology Award**  
UK Power Networks Services' UPS Smart Electric Urban Logistics won the Supply Chain/Logistics Technology of the Year for its smart grid solution which allows UPS to increase the number of its electric trucks from the current limit of 65 to 170, without the need for an upgrade to the power supply connection.



UK Power Networks Services' contract to relocate the substation B1D is absolutely key to releasing the capacity in our taxiway network.

**Rob Stewart**  
Programme Delivery Director,  
Manchester Airport Group



## Our financial performance

The tables below summarise the key financial information for our three networks regulated by Ofgem.

Eastern Power Networks plc, serving North London and East Anglia									
£m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19*
Turnover	425.1	480.4	542.4	551.4	608.7	607.4	636.1	642.6	625.4
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation)	239.5	295.1	350.1	356.9	411.6	416.8	449.3	448.0	447.3
Tax charge/(credit)	(12.0)	(10.1)	(9.6)	13.1	30.4	28.9	21.4	46.8	38.7
Profit after tax	33.1	108.3	146.4	221.5	115.3	178.8	128.4	185.3	162.3
Operating cashflow post capex, interest and tax	(256.5)	(21.9)	32.6	4.9	16.2	19.3	59.5	60.2	23.0
Capital expenditure	255.6	245.3	238.1	307.1	288.1	182.9	234.9	249.2	255.5
Net debt	1,284.1	1,424.5	1,403.0	1,438.1	1,588.5	1,593.5	1,629.8	1,706.2	1,804.3
Regulated asset value (RAV)*	1,966.3	2,084.8	2,196.2	2,332.2	2,413.5	2,436.1	2,540.5	2,630.4	2,698.1
Net debt to RAV	65%	68%	64%	62%	66%	65%	64%	65%	67%
Incentive revenue (2012/13 prices)	(1.9)	18.9	17.5	14.9	28.4	24.8	24.6	20.6	24.3

London Power Networks plc, serving Inner London									
£m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19*
Turnover	362.0	394.2	446.1	481.5	497.0	462.0	502.3	501.5	491.9
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation)	224.8	264.6	305.9	349.9	356.2	317.7	347.4	367.4	361.5
Tax charge/(credit)	5.9	10.5	12.2	24.0	51.2	23.6	31.8	46.1	50.4
Profit after tax	69.9	147.7	191.2	234.1	193.6	161.0	167.4	183.6	165.9
Operating cashflow post capex, interest and tax	(253.8)	(3.7)	56.9	63.9	49.6	127.5	65.1	48.6	9.0
Capital expenditure	139.2	141.6	173.1	192.2	186.6	138.3	155.7	186.9	174.8
Net debt	908.7	1,012.2	943.9	970.0	989.1	967.9	1,046.6	1,067.9	1,098.1
Regulated asset value (RAV)*	1,330.0	1,367.5	1,420.5	1,468.3	1,484.7	1,509.7	1,581.7	1,648.2	1,695.1
Net debt to RAV	68%	74%	66%	66%	67%	64%	66%	65%	65%
Incentive revenue (2012/13 prices)	3.0	7.3	5.8	8.7	12.7	15.7	16.2	17.2	16.5

South Eastern Power Networks plc, serving South London, Kent, East Sussex, and parts of Surrey and West Sussex									
£m	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19*
Turnover	269.9	306.6	356.5	394.8	404.8	388.7	449.0	421.3	405.2
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation)	173.3	200.4	250.4	288.0	298.6	279.0	330.1	305.2	293.8
Tax charge/(credit)	(4.9)	1.2	7.9	19.5	39.4	20.3	33.4	35.9	34.1
Profit after tax	29.6	91.8	123.7	179.8	151.6	126.9	173.6	139.8	126.2
Operating cashflow post capex, interest and tax	(274.9)	(33.5)	(15.9)	48.9	24.2	45.9	73.2	41.7	(9.0)
Capital expenditure	180.9	173.9	167.3	189.6	154.6	114.6	152.7	160.3	174.9
Net debt	832.2	911.5	942.8	956.0	1,023.6	980.9	1,025.1	1,095.5	1,146.5
Regulated asset value (RAV)*	1,220.5	1,313.4	1,398.5	1,484.5	1,514.1	1,541.8	1,630.2	1,703.2	1,761.1
Net debt to RAV	68%	69%	67%	64%	68%	64%	63%	64%	65%
Incentive revenue (2012/13 prices)	7.4	21.3	17.2	13.8	22.2	14.8	14.8	12.7	11.6

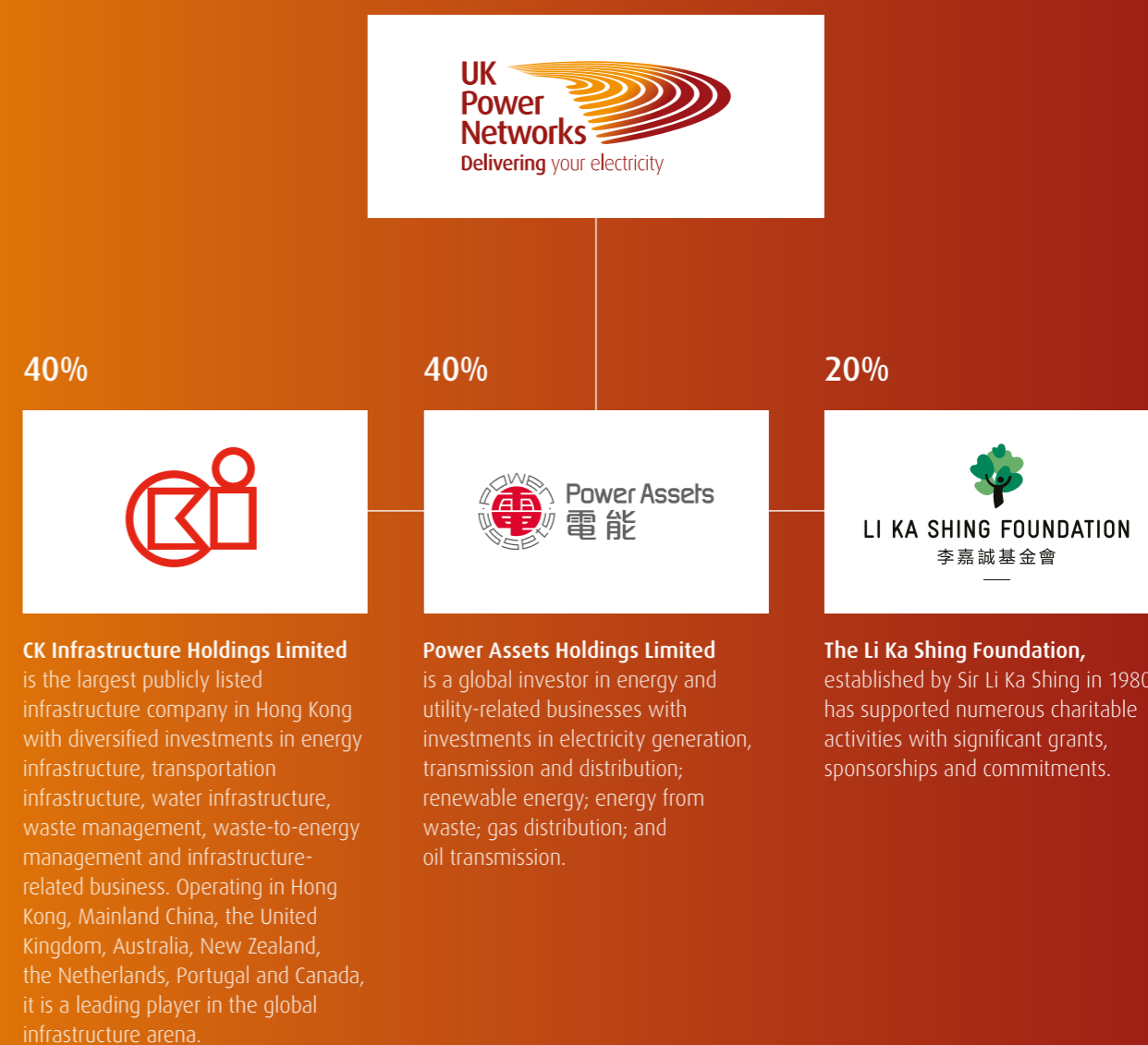
\* 2018/19 RAV presented is provisional at the date the accounts are signed. Discussion with Ofgem may result in RAV being increased or decreased. The prior year comparatives have been restated to reflect the latest agreed position.

## Our ownership

UK Power Networks is part of the Cheung Kong Group (CKG).

Operating in more than 52 countries, CKG has a proven track record in managing high-quality utility companies for the long term. It successfully operates electricity and gas distribution businesses serving communities in Hong Kong, Great Britain, Australia and New Zealand.

### Our shareholding structure:





# Board of Directors

The Board of UK Power Networks is responsible for agreeing strategy, overseeing performance and discharging certain legal responsibilities. The Board delegates day-to-day responsibility for running the group to the UK Power Networks executive management team, with specialist tasks passed to various Board committees.



## Kam Hing Lam

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr Kam has been the Group Managing Director of CK Infrastructure Holdings Limited since its incorporation in May 1996. He is an Advisor of the 12th Beijing Municipal Committee of the Chinese People’s Political Consultative Conference of the People’s Republic of China. He holds a Bachelor of Science degree in Engineering and a Master’s degree in Business Administration.



## Andrew John Hunter

**Director and Chairman – UK Power Networks Holdings Limited and UK Power Networks’ wholly owned subsidiaries**

Mr Hunter has been an Executive Director of CK Infrastructure Holdings Limited (CKI) since December 2006 and Deputy Managing Director of CKI since May 2010. He holds a Master of Arts degree and a Master’s degree in Business Administration. A member of the Institute of Chartered Accountants of Scotland and of the Hong Kong Institute of Certified Public Accountants, he has over 34 years of experience in accounting and financial management.



## Hok Shan Chong

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr Chong is the Chairman and Director of numerous enterprises. He is also a Director of many philanthropic associations, such as the Li Ka Shing Foundation, and a Director of a variety of public committees and commercial associations of Hong Kong. He received a Bachelor of Science degree from McGill University and a Master’s degree in Business Administration from Columbia University.



## Ivan Chan

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Chief Planning and Investment Officer, Mr Chan has been with CK Infrastructure Holdings Limited since September 1999. He is also the Chief Financial Officer of Power Assets Holdings Limited. He has over 30 years of experience in investment, banking and finance. He holds a Bachelor’s degree in Science, a Bachelor’s degree in Chinese Law and a Master’s degree in Business Administration.



## Neil McGee

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr McGee is an Executive Director of Power Assets Holdings Limited and the Managing Director of Hutchison Whampoa Europe S.A.R.L. He holds a Bachelor of Arts degree and a Bachelor of Law degree.



## Duncan Macrae

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr Macrae is the Head of International Business. He joined CK Infrastructure Holdings Limited in February 2011 and has over 23 years of experience in the infrastructure investment field. He holds Bachelor’s and Master’s degrees in Philosophy, Politics and Economics and is a member of the Institute of Directors in the United Kingdom.



## Dominic Chan

**Director – UK Power Networks Holdings Limited and UK Power Networks’ wholly owned subsidiaries**

Mr Chan is an Executive Director and the Chief Financial Officer of CK Infrastructure Holdings Limited. He is also an Executive Director of Power Assets Holdings Limited. He is a Fellow of the Hong Kong Institute of Certified Public Accountants, and of the Association of Chartered Certified Accountants and he is a member of the Institute of Certified Management Accountants (Australia).



## Charles Tsai

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr Tsai joined the group in 1987 and was appointed to the Board and Chief Executive Office in January 2014. He is the Chief Executive Officer of Power Assets Investments Limited, a wholly owned subsidiary of the company. He is also a Director or Alternate Director of most of the subsidiaries and certain joint ventures of the company. He holds a Bachelor of Applied Science Degree in Mechanical Engineering, and is a Registered Professional Engineer and a Chartered Engineer.



## Chi Tin Wan

**Director – UK Power Networks Holdings Limited and certain of UK Power Networks’ wholly owned subsidiaries**

Mr Wan has worked for the Power Assets Group since 1978 and was Group Managing Director of Power Assets Holdings Limited from January 2013 to January 2014. He is an Executive Director of Power Assets Holdings Limited and Chief Executive Officer of HK Electric Investments. He holds a Bachelor of Science degree in Electrical Engineering and is also a Chartered Engineer. He is an Honorary Fellow of the Energy Institute in the United Kingdom, a Fellow of the Institution of Engineering and Technology, a Fellow of the Hong Kong Institution of Engineers, and a member of the Engineers Registration Board of Hong Kong.



## Christopher Clarke

**Sufficiently Independent Director of London Power Networks plc, Eastern Power Networks plc and South Eastern Power Networks plc**

Mr Clarke was admitted as a Solicitor of the Supreme Court of England and Wales in 1974. He spent over 30 years practising in Asia and specialised in corporate and regulatory work. He previously served as an Independent Non-Executive Director of two companies listed on the Hong Kong Stock Exchange and is currently a Director of Myanmar Strategic Holdings Limited and a council member of the Royal Society for Asian Affairs.



## Paul Jeffery

**Sufficiently Independent Director of London Power Networks plc, Eastern Power Networks plc and South Eastern Power Networks plc**

Mr Jeffery was previously a Managing Director and Head of the European Power Utility & Infrastructure Investment Banking team at Barclays. He is also a Non-Executive Director of Southern Gas Networks Limited, Scotland Gas Networks Limited and Saeta Yield S.A.



## Basil Scarsella

**Director – UK Power Networks Holdings Limited and UK Power Networks’ wholly owned subsidiaries. Chief Executive Officer UK Power Networks group of companies**

Mr Scarsella has been Chief Executive Officer of UK Power Networks Holdings Limited since its establishment in late 2010. He has a degree in Economics and is a Certified Practising Accountant. He is a Life Member of Football Australia and received the Australian Sports Medal in 2000. In 2003 he became a Member of the Order of Australia (AM) for his services to sport.



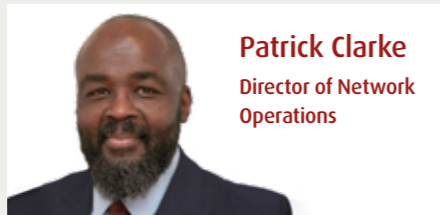
# Executive Management Team

Our Executive Management Team has collective responsibility for running our business and executing our strategy.



**Barry Hatton**  
Director of Asset Management

Barry is responsible for the development and deployment of network and asset strategies for optimising investment and performance. He has over 30 years' experience in the operations and management of electricity distribution networks. Barry is a Chartered Electrical Engineer and a Fellow of the Institution of Engineering and Technology and has a Master's degree in Technology Management.



**Patrick Clarke**  
Director of Network Operations

Patrick has day-to-day responsibility for managing the distribution of electricity to over eight million homes and businesses across London, the south east and east of England. He joined the industry in 1978 and has risen from an apprentice to an executive director over that period. He holds an Honorary Doctorate in Engineering, an OBE, an MBA and an MA.



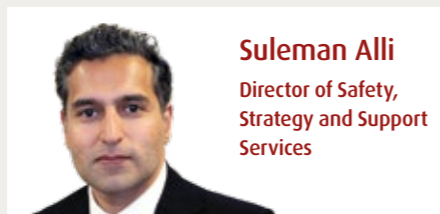
**Mark Adolphus**  
Director of Connections

Mark is responsible for UK Power Networks' Connections business. He joined London Electricity in 1992 as an engineering graduate trainee and has enjoyed a diverse career across a number of operational, engineering and commercial roles. Mark is a Chartered Electrical Engineer and holds a Master's degree in engineering business management from Warwick Business School and a degree in Electrical Engineering from the University of Leicester.



**Nirmal Kotecha**  
Director of Capital Programme and Procurement

Nirmal is responsible for UK Power Networks' Capital Programme and Procurement. Prior to joining in 2011, he was a main Board Director at the Highways Agency for three years with responsibility for delivering the Agency's £9 billion Roads programme. He is an accredited OGC High Risk Project Reviewer and a Fellow of both the Institution of Civil Engineers and the Chartered Institute of Purchasing and Supply.



**Suleman Alli**  
Director of Safety, Strategy and Support Services

Suleman is responsible for safety, strategy and support services at UK Power Networks. He joined in 2015, having previously led the utility network operation practice in the UK for Accenture. Suleman has 15 years' utilities experience, delivering business transformation, company restructures and operational performance improvement across gas, electricity and water sectors. He holds a BSc (Hons) from the London School of Economics and Political Science.



**Andrew Pace**  
Director of HR, Legal and Company Secretary

Andrew joined UK Power Networks in January 2018 and is responsible for HR, Legal and the Company Secretary division. He has over 25 years' HR leadership experience, predominantly in the construction and infrastructure sectors. Andrew held various HR leadership roles with John Laing, Rio Tinto and Balfour Beatty. Prior to joining UK Power Networks, Andrew was Executive Director, construction and infrastructure at Morgan Sindall.



**Jenny Harrison**  
Director of Finance

Jenny joined UK Power Networks in 2017. Prior to joining the company, she spent four years at BT Group as the Director of External Reporting. Jenny spent almost 20 years in various 'Big Four' accounting firms, where she focused on audit, assurance and transaction advisory work for energy and utilities companies. Jenny is a Chartered Accountant and has a BA in Classics from Oxford University. She is a trustee of a Leeds University-based sustainability charity, United Bank of Carbon.



**Ian Smyth**  
Director of UK Power Networks Services

Ian joined UK Power Networks in August 2016 to lead the commercial division, UK Power Networks Services. Prior to joining UK Power Networks Services, Ian was a Managing Director at Navigant, a Partner with LCP and a Consultant with Ernst & Young. Ian has a BA (Hons) and an MSc in Philosophy, Psychology, Statistics and Artificial Intelligence.

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

## Connection services

0800 029 4280

## Our unregulated business

[services@ukpowernetworks.co.uk](mailto:services@ukpowernetworks.co.uk)

## 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)



Visit our Annual Review website:

[annualreview2019.ukpowernetworks.co.uk](http://annualreview2019.ukpowernetworks.co.uk)




Heaven 42 is FSC certified, is elemental chlorine free and fully recyclable and biodegradable giving it excellent environmental credentials.

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

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