

# UK Power Networks Access Statement 2022/23

UK Regulators' Network (UKRN) project on cross-sector infrastructure interactions

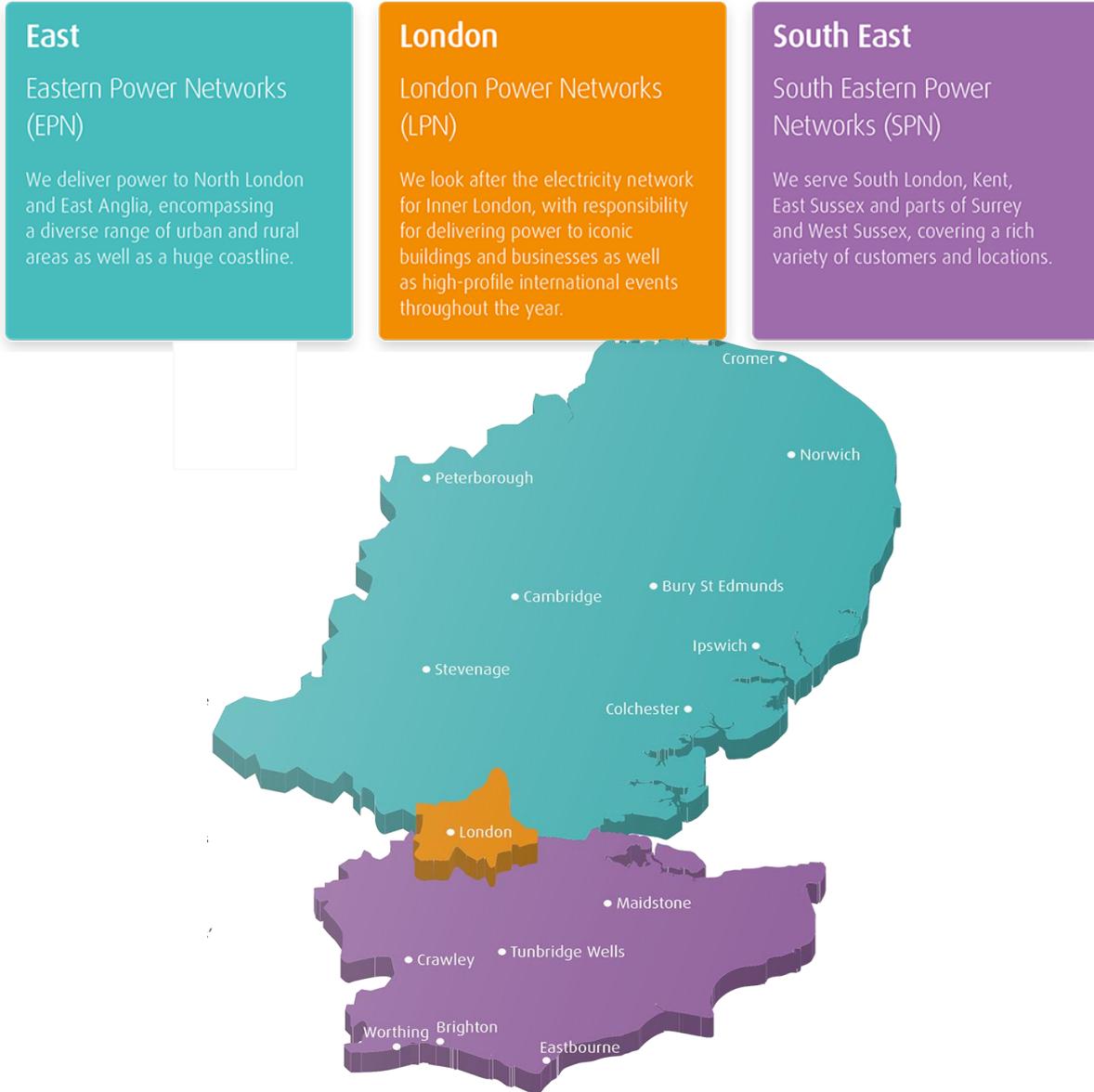
## Annual Report

# Contents

<b>CONTEXT</b>	3
<b>PURPOSE</b>	4
Principle 1: Visibility of Long-term Planning	5
Principle 2: Efficiency, Economy and Safety	5
Principle 3: Transparent Process and Practice	7
Principle 4: Clear, Transparent and Appropriate Pricing	8
Principle 5: Continuous Learning and Best Practice	8

# CONTEXT

## Where we operate



The area we serve covers more than 29,250 km<sup>2</sup> from Dover to Peterborough and Norwich to Brighton. We serve a population of 19 million.

<p>Our network has a total cable length of 190,388 km</p>	<p>We distributed 71,459 GWh of power in the year to March 2023 - 28% of the GB total</p>	<p>We have distributed generation capacity of 10.6 GW connected to our network</p>
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# PURPOSE

**Our vision is to be consistently the best performing Distribution Network Operator and Distribution System Operator in the UK.**

We have had three aspects to this, but this year we added a fourth on 'Enabling the Net Zero transition for all', which is summarised below.

An employer of choice	A respected and trusted corporate citizen	Sustainably cost efficient	Enabling the Net Zero transition for all
<ul style="list-style-type: none"> <li>▪ The safest – with an exemplary safety record</li> <li>▪ An organisation that employees are proud to work for</li> <li>▪ Creating the most diverse and inclusive DNO and DSO</li> <li>▪ Having a highly skilled and healthy workforce for both today and the long term</li> <li>▪ Strong and collaborative relationships with Trade Unions</li> </ul>	<ul style="list-style-type: none"> <li>▪ The most reliable networks</li> <li>▪ The best customer satisfaction</li> <li>▪ Meeting the needs of our customers in vulnerable circumstances, both now and in the future</li> <li>▪ The most socially and environmentally responsible in our sector (social contract)</li> <li>▪ The most innovative in our sector (becoming a disruptor, combining data, technology and new ideas)</li> <li>▪ Ensuring our supply chain is efficient, sustainable and ethical</li> </ul>	<ul style="list-style-type: none"> <li>▪ Delivering at the lowest possible cost for our customers</li> <li>▪ Delivering frontier efficiency in the work that we do</li> <li>▪ Delivering on our commitments in a collaborative way with others</li> <li>▪ Profitable growth in our Services and Connections businesses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deliver the best LCT customer satisfaction</li> <li>▪ Establish an independent DSO to maximise customer participation and efficiency in the network</li> <li>▪ Collaborating with local authorities and stakeholders to unlock regional decarbonisation plans</li> <li>▪ Provide our customers and employees with information and support to go green</li> <li>▪ Play a leadership role in addressing inequality and unfairness resulting from the energy transition</li> </ul>

This is the eighth Access Statement we have produced in response to the 2015 UK Regulators' Network (UKRN) project on cross-sector infrastructure interactions. It is intended for four key audiences:

- **Network operators** – providing the opportunity to review and improve business performance through comparison and structured dialogue with customers.
- **Customers** – providing comparative information across different network operators and sectors and enabling customers to feedback experiences and suggestions for improvement.
- **Regulators and government** – providing further evidence to allow judgement on whether we have successfully responded to what was raised in UKRN's 2015 review.
- **Investors and funders of infrastructure** – providing the opportunity to assist with the assessment of risk for existing or new projects which may come into contact with our assets.

We are determined to make access to our expertise as easy and simple as possible, whether it be for a new connection, diversion of supply or safety related queries. If you require access or information regarding any of our assets, the relevant UK Power Networks representatives can be found [here](#).

# GOOD PRACTICE PRINCIPLES FOR MANAGING INFRASTRUCTURE INTERACTIONS

## Principle 1: Visibility of Long-term Planning

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“Infrastructure network operators recognise the stewardship role they play in developing, owning and operating our national infrastructure, and that effective planning and delivery of new infrastructure, across all sectors, benefits everyone.<sup>1</sup>

Clear visibility of our plans and proposals for our infrastructure helps to deliver efficient completion of works whilst minimising disruption to those affected. Stakeholders and interested parties can access our [long term](#) plans easily from our website across all three of our licence areas, allowing clear visibility of our projects, future plans and how they might impact on stakeholder activities.

Our [Open Data](#) portal launched in 2021, also brings together thousands of datasets from a vast range of sources to provide visibility of our network assets, where they are, what capacity they have and how they are being used.

The next step in 2023/24 will be to publish our shorter-term operational forecasting with full functionality. This will be for every grid supply point (GSP), for every half an hour, in weekly windows.

## Principle 2: Efficiency, Economy and Safety

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“Without prejudicing the needs of customers or funders, or its statutory duties including safety, network operators of in situ assets should act with efficiency and economy when interacting with clients.<sup>2</sup>

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 be the safest Distribution Network Operator across Great Britain.

Our overall record on safety is very strong, with incidents resulting in employee time off work reducing steadily from 32 in 2010 and 2012 to low single digits in all recent years – a 94% improvement. Unfortunately, however, in January 2023 we were sharply reminded of the inherent dangers of our industry. An employee was fatally injured while working on the electricity network. This devastating loss affected all employees of UK Power Networks. Our thoughts and sympathy remain with the family and friends of our employee. We can never take the safety of our colleagues or the public for granted and must always have it front of mind.

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<sup>1</sup> [Cross sector Infrastructure Interactions \(ukrn.org.uk\)](#) Good Practice Principles, pps 7-8

<sup>2</sup> [Cross sector Infrastructure Interactions \(ukrn.org.uk\)](#) Good Practice Principles, pps 7-8

## Keeping Costs Down

Over the 8 year RIIO-ED1 price control ending in March 2023, we were the lowest cost DNO in Great Britain, resulting in our customers paying us an average monthly charge of £8.04 - 8% less than the industry average.

Where we can save our customers money, whilst still providing service and network excellence, we do so. During the 8 years of RIIO-ED1, relentless pursuit of efficiency allowed us to deliver our outputs whilst outperforming the efficient allowances set by our regulator Ofgem to the tune of over £430m.

An important aspect of maximising efficiency is the pursuit of innovation, wherever it has the potential to improve business processes and consumer outcomes. Over this 8 year period, 58 identifiable innovations were deployed into business-as-usual, everyday applications.

## Reliability

As more and more people adopt low carbon technologies such as electric heat pumps and EVs for transport, a reliable supply of electricity is more important than ever. The good news is that reliability has improved and can continue to do so.

There are two key measures of network reliability: Customer Interruptions (CIs), and Customer Minutes Lost (CMLs). CIs refer to the number of power cuts per 100 customers on our network, and CMLs refer to the average total time without power.

Across the business customers had 99.99% network reliability and on average a customer experiences a power cut only once every 32 months. On average in 2022/23, a UK Power Networks customer was without power for less than 30 minutes, compared to over an hour as recently as 2010.

The table below shows how our CIs and CMLs have improved over the last ten years. We put this down to a combination of commitment to customers and judicious investment in innovation and technology.

### Data analysis and tree pruning

Unfortunately, falling branches are a source of damage to overhead power lines, so we have to prune and fell some trees to keep the lights on. But we don't want to fell trees unnecessarily.

To ensure our tree-cutting allowance is spent efficiently, in a scientific and sustainable way, our analytics team designed a new computerised tool to help tree-cutting colleagues decide when, where, and how it was best to clear trees and bushes away from power lines.

Taking into account different varieties' growth rates, tree ages and locations, the software calculates a risk-ranking for each tree, indicating the priority it should be given for trimming for maximum benefit. This tool adds to the resilience of our electricity network, reduces power cuts, and also ensures that the environmental impact of tree cutting is reduced by directing work to where it is most needed.

At the same time, we are committed to improving biodiversity by 30% at 100 of our key sites over the next five years. This will include planting new trees – at a safe distance from the power lines.

	2012/13	2022/23	% Reduction
<b>Customer Interruptions</b>	<b>47.3</b>	<b>37.2</b>	<b>21%</b>
<b>Customer Minutes Lost</b>	<b>44.4</b>	<b>28.7</b>	<b>35%</b>

## Principle 3: Transparent Process and Practice

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“ Network operators should establish and follow a process to manage interactions that is transparent, easy to follow, appropriately resourced and commits to explicit service standards appropriate to the clients and projects concerned, supported by the provision of accurate information about the operators’ network, safety or process as necessary. <sup>3</sup>

All of our processes are clearly defined and laid out on our website, taking the customer through simple steps to guide their interaction with us.

For example, when planning to carry out work, customers will need to know the location of our equipment, such as electricity lines or cables. These may need to be avoided or moved, and hence we have made it easy for customers to obtain this information, either through the third party ‘[LineSearchBeforeUDIG](#)’ or by getting in touch with us [directly](#). This is a free service for all domestic customers and those working on behalf of domestic customers, with a small charge for commercial users.

### Smart Connect

The “Smart Connect” portal makes it quicker and easier for installers to connect low carbon technology (LCT) applications - electric vehicle charge points, heat pumps, solar panels and battery storage facilities – to the local electricity network. Before introducing Smart Connect, approvals of this sort usually took ten days; the process now takes a matter of minutes.

Smart Connect played a vital role in enabling us to massively ramp up the number of LCT installations in our areas. Numbers rose by 31% in 2021/22, compared to 2020/21, and then doubled again in 2022/23 to a peak of over 7,000 applications per month in early 2023. Projects included nearly 50,000 new solar PV and home battery installations over the course of 2022/23.

Smart Connect works through robotic process automation to automatically approve 79% of applications and has a 96.5% customer satisfaction rating. As well as saving time for installers it also reduces the need for time-consuming manual processing of data, freeing up an estimated 15 members of staff for handling the more difficult cases.

Smart Connect is backed up by other measures to help customers with their low carbon technology connections:

- UK Power Networks collaborates with Octopus Energy, training their engineers to carry out fuse upgrades, when they are needed as part of an EV or heat pump connection. This enables the procedure to move faster and at lower cost as fewer engineering visits to the customer’s premises are needed.

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<sup>3</sup> [Cross sector Infrastructure Interactions \(ukrn.org.uk\)](#) Good Practice Principles, pps 7-8

## Principle 4: Clear, Transparent and Appropriate Pricing

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“ Any fees or charges to clients should be clearly explained, reflect reasonable and appropriate cost and risk, without exploiting unfair commercial advantage and where reasonable facilitate efficient planning and delivery of infrastructure projects.<sup>4</sup>

Access to our electronic records, such as underground/overhead cables, is generally free of charge. Where charges are applicable, this is clearly explained.

If works are required, and once a project has been designed, UK Power Networks will prepare a quotation that clearly breaks down the cost and scope of the works involved, whilst pointing out where responsibilities lie. A quotation expiry date is also provided to further clarify the time for which the offer is valid. By providing a cost breakdown customers have the option to use third parties to complete part of the works if preferred.

If the customer finds that they do not understand any part of the quotation, contact details are provided so they can discuss the process in more detail with a project designer.

## Principle 5: Continuous Learning and Best Practice

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“ The lessons and experiences of best practice in managing interactions within the organisation, based on measurable performance where possible, and outside are proactively gathered and applied, with a commitment to training and support of staff managing interactions.<sup>5</sup>

We are committed to continuous improvement, in our own work and in our interactions with customers. We receive a vast number of enquiries a year, all expecting a high level of service, and with so many customer interactions it is important that we recognise what went well and how we can improve.

We are well aware of the responsibility and privilege that we have as a provider of an essential service. As a result, we are determined to deliver the best-possible service to our customers. With people

### Optimise Prime – a case study

Charging electric vehicles can require significant power from the grid. Businesses with fleets of vehicles therefore have a major interest in keeping charge costs down and we are keen to help them electrify at lowest cost.

Our innovation project, Optimise Prime, is the world's largest electric fleet trial. We partnered with fleet operators Royal Mail, Centrica, and Uber to understand the challenges fleet operators face when looking to electrify.

As part of the project, we developed a 'site planning tool' to enable fleet managers to assess how to electrify their fleet at lowest cost. Fleet managers must consider what vehicles are needed on which routes, when they are needed and where there is space to charge. By inputting information such as vehicle schedules, mileage, and site energy profiles, the tool compares different scenarios to understand the impact of fleet electrification and the benefits of using smart charging.

The tool also checks if a site needs an electricity connection upgrade, or if a fleet can operate on the existing connection. As a result, we have a better understanding of customer needs, allowing us to explore options for lowering costs and make the whole connection process faster and more transparent.

<sup>4</sup> [Cross sector Infrastructure Interactions \(ukrn.org.uk\)](https://www.ukrn.org.uk) Good Practice Principles, pps 7-8

<sup>5</sup> [Cross sector Infrastructure Interactions \(ukrn.org.uk\)](https://www.ukrn.org.uk) Good Practice Principles, pps 7-8

generally only becoming aware of us when something goes wrong or they want to make a change to their arrangements with us, we do our best to plan for every eventuality. This ensures that we are ready to take care of their needs and we go to great lengths to look after our vulnerable customers as they are likely to feel the effects of power cuts more acutely than others.

We pro-actively seek out customers in vulnerable circumstances and engage with them also about energy efficiency and energy bills to help them save money. This year we expanded our fuel poverty partnership programme, continuing to set up local fuel poverty partnerships with charities across our regions.<sup>6</sup>

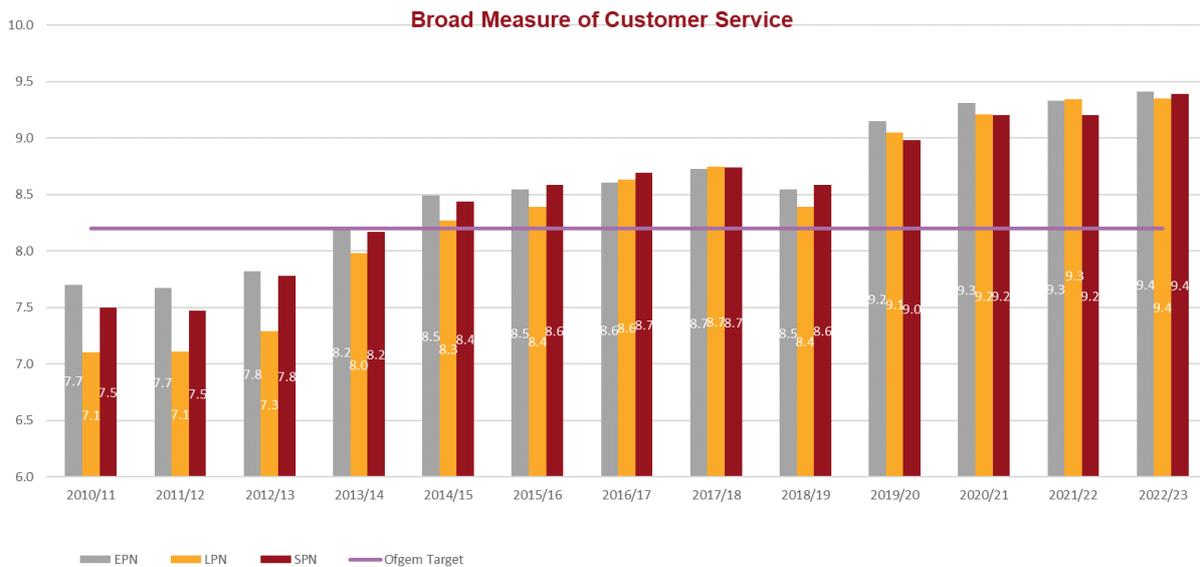
### Customer Satisfaction

The energy regulator, Ofgem, measures customer satisfaction across all DNOs and it is one of our most important measures of performance. Since 2012, UK Power Networks’ score has been rising steadily and in 2022/23 we achieved our highest-ever score of 94%.

**Spreading the benefits of flexible power consumption**

We want to ensure that all our customers see the benefits of low carbon technologies including lower costs through storage and flexible demand. Flexibility products currently offered are not easily accessible to everyone, so we’ve been analysing data to understand what social indicators overlap with the most constrained areas on our network, and what barriers customers face in these areas. This indicates where more widespread flexibility could offer the most value to customers and the network.

Building on this information we engaged with customers and aggregators to shape a social flexibility product that works for more people. This addresses the identified barriers to participation, ensuring that less active customers are not left behind.



**Priority Services Register**

Our Priority Services Register (PSR) is our primary mechanism to identify and support customers in vulnerable circumstances. To improve our PSR, we took the initiative to share data with water companies in our regions - sharing is now complete with seven out of the eight water companies. This has led to thousands of new registrations and has helped us to exceed our RIIO-ED1 business plan commitment to double the number of PSR customers.

<sup>6</sup> [Community Energy | UK Power Networks](#)

## Broader and deeper engagement

We are aware of the varied and particular needs and demands of our customers, but because these evolve over time, we carry out ongoing, extensive engagement to determine their priorities when it comes to the service we provide.

Over the 2022/23 regulatory year, we were once again ranked first by an expert panel commissioned by Ofgem as part of the Stakeholder Engagement and Consumer Vulnerability incentive - for the fourth year in a row. The Panel noted in particular:

*“UKPN consistently views problems and barriers from a customer perspective, reframing the conversation from ‘it’s never been done before’ to ‘what if we could?’ and building meaningful collaborations both within and outside the sector to deliver benefits for customers regionally and nationally.*

*The Panel was extremely impressed with UKPN’s ..... extremely mature, agile, embedded stakeholder engagement strategy that has resulted in a culture of outreach, learning, innovation and problem solving, focussed on tackling sector-wide issues and achieving benefits at scale. UKPN collaborates widely, both within and outside the sector, and delivers both as a leader and a ‘fast follower’.* “

Engaging with stakeholders allows us to create new services and enhance existing ones, improve performance by learning from innovative practices, and meet the needs of hard-to-reach customer groups and those in vulnerable circumstances.

Over the past year we have embedded our end-to-end impact measurements into our engagement process and increased again the number of initiatives assessed compared to last year. This allows us to determine which actions to take based on the amount of social good each action will deliver.

### Supporting Renewable Generation

Engagement has allowed us to increase the involvement of our generation customers in our network maintenance processes. We received feedback from this customer group asking for earlier notice of planned network outages which affected them, and for the opportunity to coordinate with us to reschedule these outages to minimise the impact on their businesses.

Based on this feedback, we became the first DNO to provide a dynamic outage planning portal. This allows generators connecting to our network to be informed in advance and, if needed, request changes to the planned outage schedule to manage the operational impact on their business. They can use the same tool that our staff use to arrange outages on the network. This action is now minimising the amount of time that low-carbon generators on our network are unable to export the clean energy they generate.

After using this tool, 80% of surveyed customers said it would save them time, and 70% are more satisfied compared to the previous system.

### Helping local authorities to plan for Net Zero

In 2022/23 we established a dedicated Local Net Zero Team to support local authorities in researching electrification options when developing robust local decarbonisation plans. We shaped our support through extensive engagement with local authorities across our regions, including surveys, one-to-one discussions and regional engagement events. In March 2023 we launched our Local Net Zero Hub.

This free online hub has been designed working closely with local authorities to support their journey through local area energy planning, recognising the support they need to access and interpret key data. It gives local authorities access to a raft of datasets to support their local decarbonisation plans, ranging from wind speeds, flood zones and socio-economic data to electricity network maps and information showing where there is spare electrical capacity. Having truly open, local data brought together in one place, grouped by six key planning themes, will help local authorities understand what factors they need to consider to deliver Net Zero quickly and cost-effectively