Health and safety

Health and safety is and always will be our top priority. Ours is a hazardous industry and we take the utmost responsibility to keep our employees and the public safe.

UK Power Networks distributes electricity safely and reliably to satisfied customers at the lowest cost. These priorities are all crucial, but safety wins every time.

It is always at the forefront of our minds that electricity is dangerous. We know that safety is rooted in the psychology of us all as human beings as much as it is in equipment and processes. We are meticulous and rigorous at a company level; alongside that discipline, we have a culture where everyone who works for or with UK Power Networks recognises that each of us has a personal responsibility to ourselves and our colleagues to make safety our number one priority.

We had three Lost Time Injuries in 2023/24, where the employees concerned needed to take at least one day off work. None of those three involved electrical activity. Two happened because of lack of attention to the potential hazards in the surroundings and the other was caused by incorrect lifting technique. We have zero tolerance of accidents in the workplace, so three such accidents is three too many. We continue to reinforce our message to employees and contractors alike that safety must be our primary concern and each of us is responsible for our role in delivering a safe working environment.

Corporate memory

There is no substitute for firsthand experience for imprinting an event on our minds, but of course no one wants to experience or witness an accident. To capture some of the immediacy of safety failures of the past, we are building a stock of stories drawn from the collective memories of UK Power Networks and its predecessor companies.

At a series of forums and workshops, we are sharing these with employees in a way that sticks in their minds; they are the stories of real colleagues. These accounts set out the circumstances that led to the accident and describe what happened. We also examine what we have learnt from the accident and what we do differently in light of those lessons.

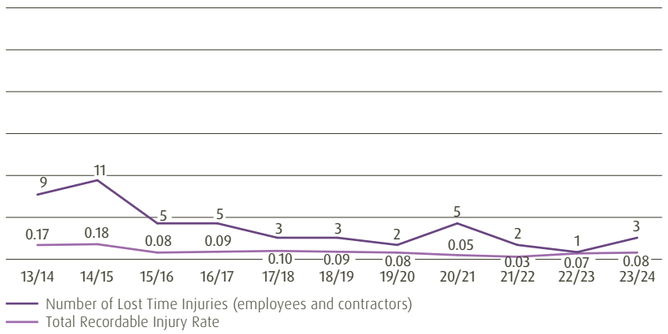
There are circumstances where we have no choice but to work on live overhead electricity lines to fix a fault. This is particularly hazardous and the small group of employees who work on live lines need highly focused training and preparation. We hold an annual conference for this group and this year we shared stories going back to 1975, chronicling the context and combination of circumstances that led to accidents, some of which – sadly – were fatal. The delegates at the conference were all too able to relate to these accounts. By building this corporate memory of what can go wrong, and spreading it throughout the workforce using case studies and role plays, we are striving to eliminate such accidents in the future.

Continuing to embed safety awareness in our operations

Since February 2023, UK Power Networks has held weekly company-wide Safety Calls at which representatives from across the business share safety performance and other relevant reports that everyone can learn from. The calls provide the leadership team with a holistic picture of safety throughout the company. A nominated leader reports on each area of the business from a safety perspective and a safety league table shows where each area is in relation to its peers. Activities are ranked and the focus is on improvement rather than criticism. The reports cover safety incidents and near misses, compliance breaches or changes and anything else that is relevant.

The output of the call is an action plan for each area, designed to address any gaps identified. This approach mirrors what we do in our customer service and network reliability functions. Since starting these calls we have seen significant improvement in safety compliance across the board, including, for example, better reporting levels and reduction in missed appointments relating to health and fitness to work.

Our performance in numbers



3

The number of injuries where employees needed at least a full day off work due to injuries in 2023/24

84%

improvement in the Total Recordable Injury Rate since 2010/11 when the rate was 0.48. This is the number of workplace injuries that result in an individual being absent from work, receiving professional medical treatment per 100,000 hours worked

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

How we are...

keeping people safe

OUR INNOVATION STRATEGY

Safety climate survey

The UK Health and Safety Executive (HSE) runs a simple online questionnaire that measures a company's safety climate and explores employees' attitudes and perceptions in key areas of health and safety. The survey results in a report that provides the company with an analysis of its safety ethos in the context of its peer group and indicates those areas in the business where its approach to safety is strong, neutral or in need of attention. In 2023/24, UK Power Networks was in the top 10% of its peer group for six of the eight categories and in the top 40% for the remaining two. The report is helpful in identifying areas such as reporting of accidents and near misses where we need to improve our performance. Despite the accidents in recent years, UK Power Networks was once again recognised by the Energy Networks Association (ENA) as the safest DNO in Great Britain in 2023. We nevertheless remain vigilant and committed to continuous improvement in our safety record.

Employee health and well-being

As well as striving to eradicate all possibilities of hazards in the workplace, we also want our employees to be healthy and well. Employees have access to an app that provides support such as advice on nutrition, sleep and mindfulness, as well as kiosks to check physical health indicators such as blood pressure and BMI. In July 2023, following analysis of the data provided by our occupational health team, we ran an awareness campaign to encourage employees to lose an inch or two from their waistlines to avoid the health problems associated with carrying extra weight in that area.

Public safety

As well as doing everything we can to make UK Power Networks safe for those working for the company, we are also committed to ensuring that our actions or mistakes are not responsible for any harm coming to members of the public. Using a multi-channel communications approach, we reached over 0.6 million members of the public with our safety messages, against a target of 300,000 for this period. At the end of year one of this new five-year ED2 regulatory period, we have already reached 40% of our target of 1.5 million members of the public.

In 2023/24, we continued to establish a strong focus on engagement with high-risk groups as identified through analysis of incident data from the previous reporting period. Public data from 2022/23 showed that contact with underground services makes up 39% of the safety incidents in the year, interference with the network accounted for 17% and contact with overhead lines was 16% of the total. This informed the public safety approach for 2023/24.

Below is a sample of the public safety initiatives we have run:

- Social media campaigns to target the building industry.
- Continued the rollout of our external trailer safety stickers for Look Up and Look Out, with the NFU/RHA (Road Haulage Association) and British Sugar.
- Extended collaboration with the RHA.
- Over 54,000 safety-related resources provided to third parties, including to specific trade associations identified as high-risk.
- Attended and delivered key safety messaging at 42 external events focused on SME builders/ trades, streetworks practitioners, the agricultural community, and the construction industry.
- Line Search Before You Dig (LSBUD) working party collaboration continues. Safety information is provided to all customers requesting UK Power Networks plans

"What the forum demonstrated to us was UK Power Networks' number one priority is safety. The emphasis was on good leadership and ensuring that no job is so important, urgent or costly that it can't be planned accordingly and delivered safely every time.

It was a well worthwhile day for contractors and much appreciated by us at TreeSmiths."

Ben Smith
Director, TreeSmiths Ltd

CONTRACTOR FORUM

It is essential that our contractors are completely aligned with our internal standards, especially regarding safety. In March 2024, 150 contractors – along with our CEO and other senior UK Power Networks managers – gathered at a forum designed to share, learn and collaborate so that, together, we can reduce the risk of harm from our activities. The Forum looked at the principles underlying safe management of a hazardous workplace, sharing lessons from recent safety incidents and drawing on experience from other industries.

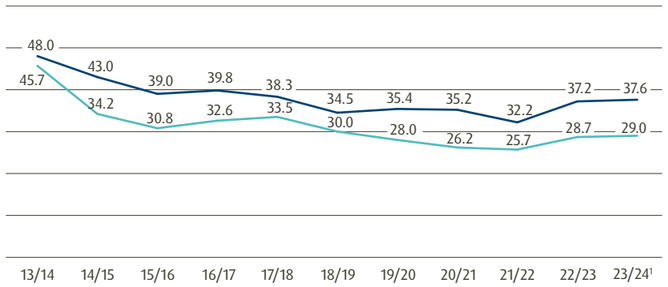
What this means for our customers

A safety-conscious workforce protects everyone: employees, customers and the general public. Contractors are a vital factor in how we deliver a safe service, so the better our contractors understand and follow our safety culture, the better – and safer – service they can provide.

Network reliability

With the growth in low-carbon technologies powered by electricity, our customers are ever-more reliant on a reliable power supply. We are working tirelessly to deliver that.

Our performance highlights



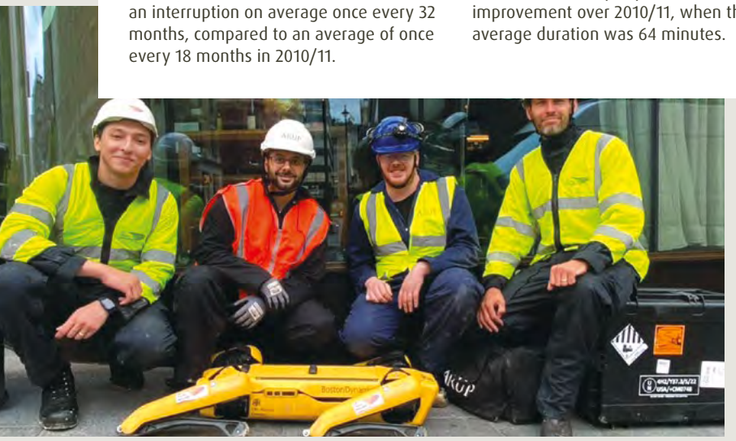
1 2023/24 figures presented are provisional based on our regulatory submission at the date the accounts are signed.
2 Figures are a weighted average of the three licence areas and exclude exceptional events.

37.6 CIs

Our power cut performance has improved by 43% since 2010/11 when our CIs were at 66.1, which means customers now see an interruption on average once every 32 months, compared to an average of once every 18 months in 2010/11.

29.0 CMLs

A customer connected to our network will be off supply on average for less than half an hour per year. This is a 55% improvement over 2010/11, when the average duration was 64 minutes.



At UK Power Networks we pride ourselves on the reliability of our networks. Keeping the lights on is a key priority, whatever the weather or nature throws at us.

Most of our customers had an excellent service from us in 2023/24, but the power supply for a small number of people in our area of operations fell below our usual standard. Some of the interruptions to our service were caused by a small number of large, unrelated events. Other power cuts were caused by equipment malfunctioning. We are taking a careful look at our network and operational processes to find out why these events happened, and why they had such an impact, and to do all we can to ensure our service is back to the excellent levels that we expect.

Our record shows us to be one of the most reliable DNO groups in the country, out-performing Ofgem performance targets by over 30% in the last regulatory period, RIIO-ED1. We are determined to continue to deserve our reputation for reliability in the current period, ED2. Our push for ever-greater reliability continues to focus on two main fronts: finding new ways to prevent faults rather than waiting for them to need to be repaired, and making greater use of remote control to restore customers' supplies more quickly and efficiently.

Automating to improve network reliability

Automation of the network is a crucial element in how we ensure that it runs smoothly and, when there is an interruption, it helps us get up and running again quickly without the need for manual intervention. Our deployment of remote-control technology increased considerably this year, and this is set to continue. We have now fitted over 14,000 of our substations with this kit to restore the electricity network remotely. We have the ambitious target of installing remote control equipment in over 5,000 substations across our area of operation, for both our HV (High Voltage) and LV (Low Voltage) networks. This involves, for example, retro-fitting remote switches on some older HV switchgear, replacing some with newer remote controllable ones and installing LV reclosers.

We have about 3,000 sets of LV reclosers, which we routinely deploy across our LV network. These reclosers quickly restore the power supply after a transient LV fault and collect enough information about the fault to enable us carry out repairs.

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

How we are...

delivering a reliable network

OUR INNOVATION STRATEGY

The next step in our proactive repair strategy is to introduce LV fault monitors. Whereas we use the LV reclosers to target specific LV circuits, we mostly use the LV fault monitors to keep a check on every LV cable coming out of the substation. The LV monitor records any disturbance it detects on the network and identifies where a fault is developing. That means we can find it and fix it before it becomes a problem for customers. The monitors also help us to keep any eye on network loads at any time. That means that when people are connecting low-carbon technology such as EVs and heat pumps, we have a better idea of how this is affecting the network, so we can be better prepared to handle the additional load. We made an important pledge to our customers that they won't see a reduction in the quality of their supply as a result of our Net Zero commitments. The project to install 5,000 LV monitors over the course of ED2 (up to 2028) is central to that promise.

In 2023/24, our LV reclosers were used 2,417 times, which means that we avoided 1.27 Customer Interruptions per 100 connected customers and 2.09 Customer Minutes Lost per connected customer.

Worst served customers

The focus of our programmes to continually improve the reliability of our network tends to be on reducing both the frequency and duration of power cuts for the majority of our customers. Nevertheless, we also want to address the position of the few and far between customers – fewer than 0.3% of them – who experience repeated power cuts. In the previous regulatory period (ED1), customers who had 12 high voltage faults in a three-year period, including a minimum of three faults in each year, were classed as Worst Served Customers according to Ofgem's definition. This criterion has now changed, with the minimum three faults in each year reducing to two.

This change means a 70% increase in the number of customers falling into the 'worst served' category. We have a programme of improvements to address these shortcomings, involving considerable capital investment, such as putting overhead lines underground. In the last year we have designed and delivered 40 such initiatives to support these poorly served customers, which is the approximate number we completed in the whole eight-year period of ED1.

Technical innovations supporting network resilience

Our innovations team is always striving to improve the reliability of our network, and 2023/24 has seen the introduction of a range of new technologies designed to make the network more resilient. These include satellite technology (see case study, right), robot dogs, and drones to spot faults on the line.

"The results of our trial using satellite technology have proved to be encouraging. We will be able to monitor tree growth and decaying trees much more accurately, this will enable us to manage the tree cutting programme much more effectively by being able to target those trees that are fast growing or in danger of falling over."

Colin Barden
Head of Quality of Supply, UK Power Networks

Some of the tunnels we need to inspect are too small or unstable to send people into them, so we send the robotic dog, Spot, which is about the size of a Labrador. It goes into these tight spaces to capture camera footage and thermal imaging. These are combined with a new machine-learning platform using historical data to make sure underground cables remain reliable. The data also allow us to assess how quickly the infrastructure's condition changes. Initial results revealed Spot's potential to reduce the time taken to do maintenance inspections by up to 50%.

We are also trialling the use of drones, piloted by trained UK Power Networks specialists, to locate faults on overhead lines. Previously, operational staff walked the length of such lines to find reported faults, and the drones save a great deal of time, meaning we can fix the faults more quickly and it's safer than foot patrols.

SATELLITE TECHNOLOGY

In recent years, we have used laser technology to assess the growth of vegetation along our overhead power lines, so we know when it needs cutting back. Climate change has meant that trees and other vegetation grows more quickly than it used to and, in the last year, we have seen infestations of new pests such as the spruce bark beetle that can damage trees and leave them likely to fall. In 2023/24, we are looking to utilise satellite technology to do the same job. It is less carbon-intensive than using drones, and faster and more accurate in delivering the information to our tree-cutting teams.

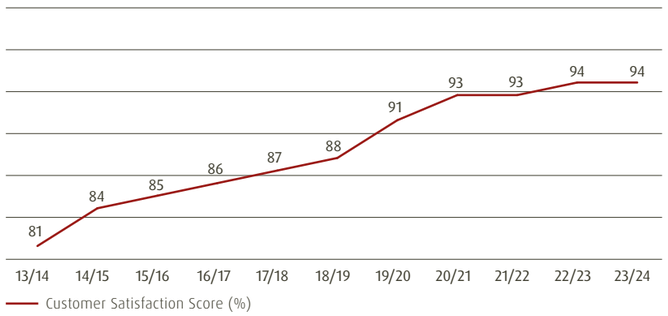
What this means for our customers

Satellite technology's accuracy delivers great value compared to the existing LiDAR approach. The images can be analysed in a fraction of the time (two weeks compared to more than six months) and we can run spot checks after storms to assess damage. This type of data acquisition is much cheaper so we can do more of it and act on it more quickly. This means our vegetation management is altogether more cost-effective. We think we will save around £25m of customers' money over the next ten years.

Customer satisfaction

Our culture focuses on understanding what our customers want and expect and providing service that meets those needs, tailoring it to their individual requirements whenever we can. This approach has earned us another year of increased customer satisfaction.

Our performance highlights



94%
Customer satisfaction score

Ranked No.1
Ofgem ranked us No.1 DNO for our Broad Measure of Customer Satisfaction score

While the safety of our employees and the public is always our number one priority, customer satisfaction has been a key strategic focus for UK Power Networks since its formation in 2010.

We have built a culture in which everyone who works for the company recognises the importance of doing what is right for our customers. Since those early days of UK Power Networks, we have improved our customer satisfaction ratings every year. This year, 2023/24, we once again achieved an industry-leading Broad Measure of Customer Satisfaction (BMoCS) score from Ofgem of 94%, up from 93.8% in the previous year.

We provide a safe, reliable, cost-effective power supply. As the economy reduces its reliance on fossil fuels and progresses towards Net Zero emissions, ever-greater pressure on the clean electricity network means we are continually upping our game. We have met the twin challenges of increasing customer service expectations and the inexorable rise in demand for renewable generation head on, increasing our customer satisfaction on an already high base. The culture we have built at UK Power Networks means our people are highly motivated to put themselves in the shoes of our customers and deliver better and better service every time.

A more granular approach

We are now one year into the new regulatory period, RIIO-ED2, which began in April 2023. This has heralded a more granular approach to measuring customer satisfaction; we now measure it in categories such as business customers, low-carbon technology customers and vulnerable customers. This gives us a far superior level of detail that supports our targeted approach to taking care of our customers. These insights mean that we have adapted some of the ways that we approach customer service, such as how to triage customer enquiries and which partners we work with to deliver that service. For example, we have changed the order in which things happen in the connections process. Having an engineer visit the property early in the process means we understand the customers' requirements better. This in turn means that the connection is much more likely to be right first time, particularly in the case of a complex installation.

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

How we are...

keeping our customers satisfied

OUR INNOVATION STRATEGY

Challenging assumptions to free up connections

Our commitment to excellent customer satisfaction applies throughout the business: in the field, at the corporate level and everything in between. We want to support customers in their wish to decarbonise their lives and we recognise that there are infrastructure challenges thwarting that ambition. The vast majority of projects that want to connect to our network can do so, and individual householders who want to connect clean energy technology like electric vehicle charge points and solar panels can continue to do so. Constraints on the national transmission network mean there is not always enough capacity to connect much larger projects in all areas. UK Power Networks is leading the industry in accelerating large-scale connections.

We are challenging established industry assumptions to free up capacity for renewables to connect. We are leading a UK-wide project called Technical Limits which is freeing up nearly 4 GW of capacity for new connections in our licence areas alone, cutting years off the waiting times for large renewable energy projects to connect.

Data driving our approach

Our business, along with many others, is hungry for more and better data. The insights from well-managed data are driving change at UK Power Networks. Our user-focused approach to data management has had a significant impact on operational success throughout the business. Our systematic improvements in data handling and analysis have contributed to that success. Rigorous data quality measures have helped instil deep trust in our data, so we can make informed decisions based on reliable insights.

In relation to how we serve customers, for instance, we now have same-day tracking of customer service performance.

This means we can see the detail of how we are performing at a granular level as well as being able to see trends mapped against the customer journey. This attention to detail means we can spot where there are problems in the process and act quickly to rectify them.

88%
customer satisfaction score for connections

5-star
Trustpilot rating based on 6,000+ reviews

"I welcome this further investment by Extra, UK Power Networks and IONITY, which will improve EV charging provision on England's motorway network. This will not only support EV drivers on UK roads, but also help the Government's drive towards a greener motor industry."

Anthony Browne
Former Decarbonisation Minister

92%
customer satisfaction score for low-carbon technology customers

87%
of complaints resolved within one day

INFRASTRUCTURE FOR 12 NEW ULTRA-RAPID CHARGE POINTS

UK Power Networks has delivered new electricity infrastructure to power 12 new IONITY ultra-rapid charge points between J9 and J10 of the M25 at Extra Motorway Service Area's (MSA) Cobham Services to support EV uptake, reduce carbon emissions and improve local air quality. As part of our Green Recovery programme, power upgrades are progressing at several motorway service stations to connect more electric vehicle chargers. At Cobham, UK Power Networks has installed 5 km of new 33,000-volt cabling and new equipment at a substation in Effingham.

What this means for our customers

This investment in power infrastructure for the motorway network at Cobham Services will enable more drivers to make the switch to EVs, improve air quality and reduce carbon emissions. It will also promote jobs and economic growth.

Value for money

Two central elements of our vision are to be a respected and trusted corporate citizen and to be sustainably cost efficient.

Our performance highlights

Annual domestic charges 2023–24

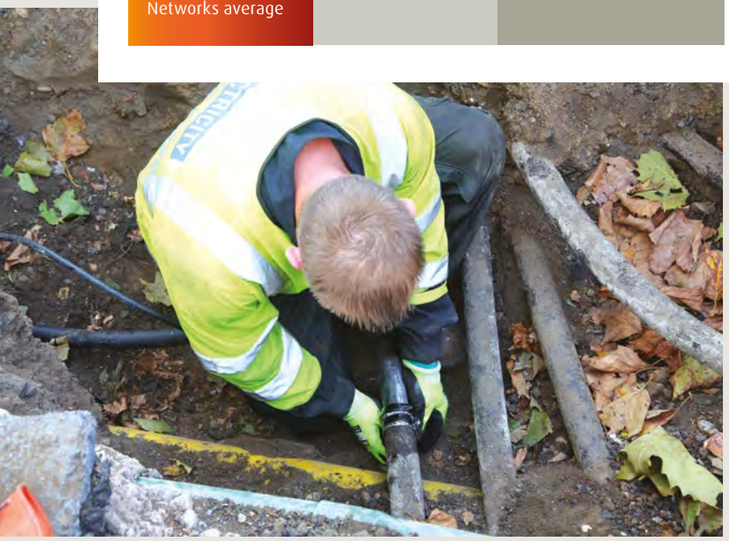
Domestic unrestricted customers based on a typical annual consumption value of 2,700 kWh.

22% lower
annual domestic charges than the industry average

£137.95
Most expensive DNO group average

£107.93
Industry average

£88.22
UK Power Networks average



Providing value for money for our customers is a fundamental responsibility that we take with the utmost seriousness, particularly in these times of financial pressure caused by the cost-of-living crisis. Many of the innovations we have introduced in 2023/24 are designed with value for our customers' money in mind.

Customer videos speed up LCT connections

As people want to connect equipment such as EVs and heat pumps in ever-greater numbers, more of them are coming directly to us rather than going through installers. The Fuse Upgrade that is required is complicated and requires information customers don't have and uses technical language many won't understand. This can lead to them submitting incorrect information which makes the process longer and more complicated for the customer.

Building on work we've already done to make the process easier for installers, we can now use video surveys that customers complete at their own convenience. These allow our staff to identify what work is required, without the need for complex, technical questions. For example, an external view of the customer's home tells us if their supply is fed through overground or underground cables, and this is not necessarily apparent to customers. The information we gather allows us to assign the correct engineer for the job quickly and increases the proportion of work that is delivered right first time. This speeds the process up considerably, reducing customer frustration and saving both time and money.

During 2023/24, we supported 300 customers through video calls and in 100 cases, the video calls told us that the faults were internal; without those calls we would have sent an engineer to investigate, so we saved 100 unnecessary engineer visits.

We are building on the success of this project, and are now looking to roll this solution out to other areas of the business to make better use of our resources, thereby reducing our operating costs thanks to fewer aborted connections engineer visits.

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

7 AFFORDABLE AND CLEAN ENERGY

17 PARTNERSHIPS FOR THE GOALS

How we are...

looking after the interests of our customers

OUR INNOVATION STRATEGY

Automated Tunnel Data Capture

In 2023/24, we started using a robot (see page 35) to carry out tunnel and shaft inspections. The robot can work tirelessly and accurately, with none of the safety risks involved in sending a person into these confined spaces. It works more quickly and, thanks to AI, detects anomalies and defects that are not obvious to the naked, human eye, so we fix the problems sooner. This project was funded by UK Power Networks, and the savings that it will make on behalf of customers are significant.

Flex provides saving on reinforcement costs

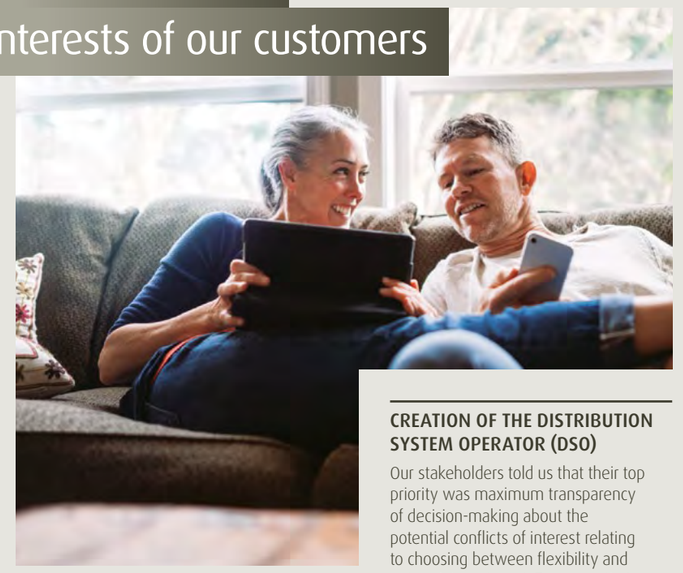
We consistently market test all future network needs to identify the lowest cost option to deliver capacity. This year we market tested £470m of network investment across 450 sites through our twice-yearly flexibility tenders and delivered £91m benefits to customers by using flexibility to defer distribution network investment. The independent DSO Supervisory Board (see case study, right) challenged us to ensure our network investment levels remain sustainable to meet future demand, while keeping costs low for consumers. We are on track to deliver our business plan commitment of a £410m reduction in network reinforcement spend during RIIO-ED2. 100% of these savings flow to bill-payers rather than shareholders. The savings this year will result in customer bills being lower than they would otherwise have been.

£1.3m worth of free electricity for 24,000 households

We worked with Octopus Energy to launch an offer that allows customers with a smart meter to use spare green electricity at no cost (see page 41). 24,000 customers enrolled for this in 2023/24, with 77% taking part at each event. The offer makes use of the excess green electricity that is generated when it is sunny or windy. This is another example of us finding ways to provide value for our customers.

We ran sessions with Octopus Energy, to share our learnings with other DSOs, to support the service to scale up, so that more customers across Great Britain can take part. We are pleased to see National Grid Electricity Distribution (NGED) committing to introduce demand turn-up from 2025. Building on the success of our work with Octopus, we engaged with other energy suppliers with significant customer bases to understand their appetite to provide flexibility and identify any barriers we could help address. This resulted in us awarding contracts to British Gas and OVO which, together with Octopus, supply energy to more than 50% of domestic customers in the UK.

Find out more: See our DSO strategy document



> "UK Power Networks' full legal unbundling of the DSO and the appointment of an independent Supervisory Board is a radical shift that moves our focus towards the needs of customers and away from the way DNOs have always done things."

Michael Walsh
Chair UK Power Networks DSO Supervisory Board

CREATION OF THE DISTRIBUTION SYSTEM OPERATOR (DSO)

Our stakeholders told us that their top priority was maximum transparency of decision-making about the potential conflicts of interest relating to choosing between flexibility and network investment. To ensure that we are providing value for money for our customers, we opted to form a Distribution System Operator (DSO) that is legally separate from the UK Power Networks Distribution Network Operator (DNO). We now have the world's first legally separate DSO, overseen by an independent Supervisory Board that approves investment decisions, ensuring we deliver capacity at the lowest overall cost to consumers.

The DSO Supervisory Board challenges and approves the recommendations made by the Distribution Network Options Assessment process, through which we identify needs for additional capacity on the network and evaluate flexibility and network solutions on a level playing field.

What this means for our customers

The DSO panel reviewed £470m of additional potential investments in detail. We challenged the DSO to maximise flexibility, unlocking the potential for an additional £81m of customer savings during RIIO-ED2, while ensuring that this does not build a problem for the future.

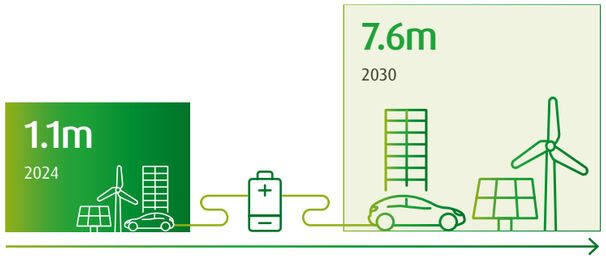
Innovation and the path to Net Zero

We never forget that we have a responsibility to provide value for money for our customers. This principle underpins every decision we make in the business. It is the reason, for example, that we structured our Distribution System Operator (DSO) in a way that has the best interests of our customers at heart.

Our performance highlights

Low-carbon technologies predicted growth

By 2030, 7.6m LCT[1] are expected to be connected to our network.



1 LCT includes EVs, heat pumps, district heating connections and homes with solar panels.

Innovation is vital for the future of our network. It helps us keep at the forefront of developments in our field, keep costs down for customers, and helps ensure we are ready to facilitate a fair transition to a low-carbon economy.

Many innovative projects we work on are technical engineering solutions that both enhance and inform the way we manage our network. These may include digitising traditionally analogue systems to give network operators greater visibility of our network, or helping more green technologies to connect on our journey to Net Zero. Some of our innovations are rooted in our approach to data collection and management, others relate to the way we manage our customer service or our relationships with partners of all kinds.

This regulatory year we became the first ever network operator in the UK to establish a legally-independent Distribution System Operator, which further underlined our bold approach to innovation. Led by a director, the DSO is scrutinised by an independent Supervisory Board that is tasked with ensuring our investments provide value for customers.

Our approach to planning the future of our network is to put flexibility first. In other words, we look for ways to get the most from our network before building new infrastructure. That helps to ensure that when we do build new infrastructure it's the right capacity in the right place at the right time.

Ambitious and groundbreaking innovations

The ambition of Net Zero continues to drive our innovations and is a recurring theme in the many advances we saw in 2023/24.

Day-ahead flexibility

In March 2024, we were the first network to offer a day-ahead flexibility product at a distribution level. Daily mini tenders are held to secure services for the next day, in addition to the traditional twice-yearly flexibility tenders. These mini-tenders enable flexibility providers to give a more accurate picture of their availability, creating new business opportunities and allowing them to coordinate their services in other areas, such as wholesale markets and ancillary services. This new product helps flexibility providers manage supply and demand peaks more effectively, by allowing them to commit to changes in their operations one day in advance.

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

How we are...

putting Net Zero within everyone's reach

OUR INNOVATION STRATEGY

Powercast – putting EV drivers in charge

We are always looking for ways to encourage EV driving. In March 2024, we helped ev.energy launch an innovative feature on their charging app, helping EV owners stay charged in the event of a planned power cut. The app provides alerts to EV drivers about both planned and unplanned power cuts, so people can plan ahead and charge their cars before the outage starts.

Known as 'Powercast', the free feature works by linking ev.energy's system with UK Power Networks' live power cut data, which shares real-time information. ev.energy passes the key facts on to the driver and provides advice on alternative charging methods so they can make an informed decision of what to do.

Neat Heat: Trial opens the door to low-carbon heating

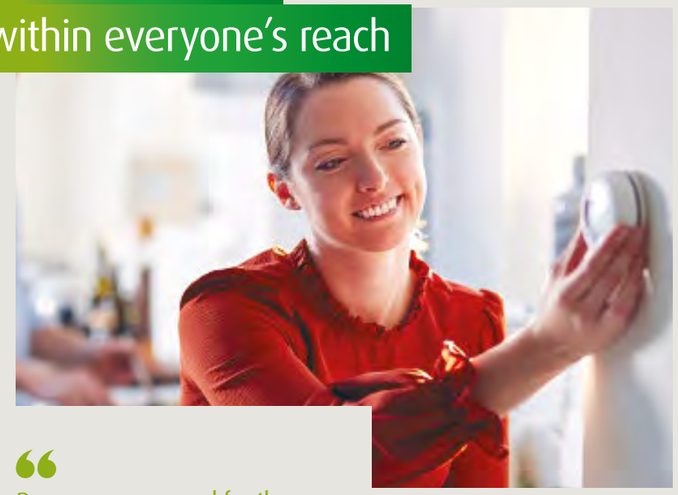
Decarbonising heating is a vital part of the path to Net Zero and in 2022 we launched a trial to test how we can move heat demand away from peak electricity hours. By installing suitable zero-emission, smart heating systems in homes which might have trouble installing traditional heat pumps, and by taking advantage of an innovative 'type-of-use' tariff developed by OVO, we proved the ability to shift electricity demand for heating outside peak hours by over 90%. The groundbreaking Neat Heat project could enable millions of small households to cut their carbon emissions significantly.

During the trial, the Zero Emission Boiler® (ZEB) 'charged' when electricity was cheaper or greener based on OVO's price signals. With a high-density storage core, the ZEB makes the most of off-peak tariffs to charge up overnight or during the day, efficiently storing this energy and releasing it when the thermostat calls for heat or hot water.

Support for Local Authorities planning for Net Zero

Around 100 of the 133 Local Authorities (LAs) in the UK Power Networks region have declared a climate emergency, and over 300 across the UK have done the same. LAs need help to produce and deploy an effective Local Area Energy Plan (LAEP) and UK Power Networks has developed an innovative approach to do that.

We have built a web-based geospatial tool, called 'Your Local Net Zero Hub' that enables Local Energy Planners to use extensive, sophisticated data sets to analyse and design ways to decarbonise their area and produce effective LAEPs that will help plan energy use for decades to come.



"Power-ups are good for the grid and good for the planet – a win for everyone. This is yet another arrow in the quiver of 'demand flexibility' and it's great to work with an innovator like UK Power Networks."

Alex Schoch
Head of Flexibility at Octopus Energy Group

Spotlight

Not all our innovation is designed to cut carbon emissions directly. We also put our creative minds to addressing vulnerability and the inequalities that can trigger. The Spotlight project uses data modelling and machine learning to identify customers who may need more support with greater accuracy. It pulls together a huge range of data sources into a useable, comprehensive resource which allows us to understand our vulnerable customers with a degree of granularity that we have not seen before. The information it provides means we can shape our services and communicate with customers in ways that we know will be relevant for the needs we have identified. See page 28 for more detail.

POWER-UPS – GREEN POWER FOR FREE

Working with Octopus Energy, we launched an innovative offer for customers with a smart meter to use spare green electricity at no cost. The service reduces the excess generation that can occur when the wind is blowing and the sun is shining. Until now it would have been wasted. Customers are alerted by email, usually the day before, and they need to opt in for each Power-up session, which typically lasts for an hour or two. For that period, they can use as much electricity as they like at no cost, to charge EVs, run the dishwasher or whatever they want.

What this means for our customers

During Power-up sessions, customers can use as much electricity as they want and it will all be free. It's a perfect time to do the hoovering, run your heat pump or immersion heater, run the dishwasher or washing machine, make dinner, you name it. This initiative increased opportunities for domestic customers to benefit from taking part in flexibility services. 24,000 households taking part in Octopus's Power-ups received over £1.3m worth of free electricity.