UK Power Networks
Delivering your electricity

Network Innovation Allowance Annual Summary

Report and results from regulatory year 2025/26

July 2026




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Foreword

Innovation drives how UK Power Networks delivers a reliable, resilient and future-ready electricity system for the communities we serve.

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Director of Asset Management

Innovation drives how UK Power Networks delivers a reliable, resilient and future-ready electricity system for the communities we serve. The true measure of innovation is not how many projects we start, but how quickly successful ideas improve outcomes for customers.

As RIIO-ED2 progresses and the energy transition accelerates, electricity demand is forecast to rise and the energy system is becoming more complex. Electrification is creating new opportunities for our customers and communities, particularly through the electrification of transport, heat and industry. This increases the importance of network capacity, resilience, digital capability, power quality and effective system planning. Innovation allows us to anticipate these changes, test new approaches and bring the most effective and beneficial solutions into everyday operation.

Over the first three years of RIIO-ED2, our teams and partners have developed and delivered a comprehensive innovation portfolio. More than 160 projects in our portfolio have been completed or are under way, and 26 solutions have already been embedded in business-as-usual operations, contributing more than £293 million in benefits for our customers. These outcomes demonstrate not only the breadth of our activity but also our increasing ability to translate innovation into commercial propositions with partners.

Building on this progress, over the past year we have strengthened how we identify and prioritise opportunities, bring digital tools into service, share learning across the business and collaborate with partners. Initiatives such as CLEO and ChargePoint Navigator are helping local authorities make better-informed decisions about the transition to Net Zero, while our work with technology providers through the Energy Innovation Centre is helping develop solutions to emerging network needs. Together, these changes are increasing the ambition and impact of our programme and helping us respond to rising expectations from customers, policymakers and partners.

Our focus is increasingly on the areas where innovation can make the greatest difference. This includes accelerating low-carbon connections, supporting vulnerable customers, ensuring that our networks remain secure and adaptable, and enhancing resilience as digital systems become more central to network operation.

The breadth of our work reflects the diverse challenges the energy transition brings. HeatScape is strengthening our understanding of how electrified heat will affect future electricity demand and network planning, while Heatropolis is exploring how flexibility can reduce peak demand and avoid unnecessary network reinforcement. Our Blue Light project is developing the digital tools and insights that help emergency services plan their estates and prepare for fleet electrification. Spotlight has trialled new ways to identify and support customers in vulnerable circumstances. Alongside this, digital initiatives like CommsConnect and Hydra, are helping to improve network insight, security and resilience.

This evolution also prepares us for the next phase of network innovation. The launch of Ofgem's Energy Networks Innovation Taskforce signals a shift towards a more strategic, mission-led approach across the sector, bringing networks, industry and innovators together to tackle the most significant challenges facing the future energy system. The next phase of network innovation must focus not simply on generating new ideas, but on solving the major challenges facing the energy system and accelerating the adoption of successful solutions for the benefit of customers as quickly as possible.

With customers facing continuing pressure on affordability, our innovation must improve service, reduce risk, reduce costs for customers, support vulnerable customers or enable the energy transition in a way that delivers value for money. It must also be deliverable by our people and partners, and capable of being scaled across the business and the wider sector.

What underpins all of this is collaboration, with the customers who share their experiences, the organisations that test new tools with us, the innovators who challenge established thinking and the partners who help turn ideas into working solutions. This collective effort is helping us identify new opportunities, understand system needs earlier and develop solutions that can be scaled more quickly and confidently. I would like to thank all who have contributed their expertise, energy and commitment to our programme.

As we enter the final two years of RIIO-ED2 and develop our plans for ED3, our focus is on making sure innovation translates into delivery. We need to adopt successful solutions quickly, apply the learning consistently across the business and maintain a clear line of sight to improved performance and value for customers.

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Our Innovation Strategy Evolves

2.0

Our Innovation Strategy Evolves

As we move through the RIIO-ED2 period, our innovation strategy continues to evolve to reflect a changing energy landscape, shifting customer needs, and the priorities of our stakeholders.

Since the start of RIIO-ED2, we have delivered one of the most comprehensive and successful innovation portfolios in the sector with 26 deployed solutions in business as usual, delivering £293 million of benefits from innovation and been awarded over £46m from the Strategic Innovation Fund (SIF). This strong foundation gives us the confidence and capability to adapt our approach as the industry transforms at pace.

Our refreshed 2025 strategy[1] recognises that the expectations placed on distribution networks have expanded significantly. We have drawn on lessons from our projects, as well as feedback from internal and external stakeholders, to keep our innovation programme current. Stakeholder engagement confirmed that our six innovation themes (listed below) remain the right framework, while also highlighting a clear need to sharpen our focus within them:

- Consumer Vulnerability;
- Net Zero and the Energy System Transition;
- Whole Energy System;
- Flexibility and Commercial Evolution;
- Proactive, Optimised Assets and Practices; and
- Data and Digitalisation.

We are therefore refining the challenges and outcomes associated with each theme to ensure they reflect emerging system needs, from accelerating renewable connections and enabling local energy planning, to improving resilience and reducing digital exclusion with our most vulnerable customers.

A central insight from our engagement is that stakeholders increasingly look to us to lead innovation across the sector. We are responding by expanding opportunities for joint ideation through our calls for innovation, strengthening support for partner led forums, and increasing whole system coordination particularly as National Energy System Operator's (NESO) role grows and strategic spatial planning becomes a national priority. At the same time, they asked us to maintain our strong track record of delivering innovation into practice.

We are therefore streamlining governance processes, simplifying approval pathways, and introducing monthly portfolio reviews to help us prioritise high impact projects and make timely "fail fast" decisions to avoid sunk costs on our projects if they are no longer delivering value.

Our strategy also adapts to wider forces shaping the electricity system. Rapid shifts in technology, increasing electrification of heat and transport, new regulatory frameworks, and rising customer expectations require an approach that is both innovative and pragmatic. We continue to balance incremental improvements with transformative solutions, using a full spectrum of funding mechanisms including business funded innovation (BFI), network innovation allowance (NIA) and strategic innovation fund (SIF) to match the level of technological risk and who benefits from the innovation.

Ultimately, this refreshed strategy strengthens our commitment to leading the transition to a smarter, more resilient, and more inclusive energy system. It provides clearer direction for partners, creates more space for collaboration, and ensures our innovation activity remains tightly aligned to customer needs and system priorities.

As we enter the last two years of RIIO-ED2 and prepare for ED3, our innovation strategy will continue to evolve guided by evidence, shaped by our stakeholders, and driven by our ambition to deliver a better, fairer and net zero energy future for the communities we serve.

1. Our 2025 Innovation Strategy can be found here

Our Innovation Performance

Our innovation performance during the first half of RIIO-ED2 demonstrates both the maturity of our processes and the scale of impact we are now delivering for our customers, stakeholders, and the wider energy system. Building on a decade of innovation leadership in the sector, our refined approach has allowed us to accelerate deployment, strengthen collaboration, and ensure our activities remain tightly aligned to strategic priorities.

3.1

How we are innovating

We have intentionally evolved our innovation model to be more responsive, better integrated with our business, and more reflective of stakeholder needs. Innovation at UK Power Networks now combines structured governance with an agile, service-based approach.

Innovation as a service provider

Our innovation team increasingly works directly with business sponsors to shape and deliver projects based on operational priorities and customer needs. This ensures that innovation is embedded deeper into our business and supports fast transition into BAU.

Learning loops built into every stage

Through the UK Power Networks' Insights Hub, we systematically capture and share insights across the organisation, enabling teams to draw on lessons learned from previous projects and sector developments. This platform uses AI to surface relevant information and improve collaboration.

Stakeholder-driven strategy refinement

Our refreshed 2025 strategy was shaped by broad stakeholder engagement including regulators, innovators, distribution network operators (DNOs), local authorities, and customer representatives to ensure our focus areas remain relevant and forward looking. Stakeholders confirmed the importance of maintaining diversity across themes and emphasised the need for even greater collaboration and deployment.

Governance designed for speed and impact

We have streamlined approval pathways, strengthened idea review processes, and introduced monthly portfolio reviews to enable fast fail decisions and ensure benefits remain on track. These changes help balance bold innovation with a high success rate for deployment.

Through this evolving approach, innovation remains firmly embedded across our corporate vision, supporting our ambition to continue to be the most innovative DNO in the UK.

3.2

Ideas we are launching

Our innovation pipeline remains both diverse and targeted, delivering meaningful progress across our six themes. In the first three years of RIIO-ED2, we have launched projects that address consumer vulnerability, decarbonisation, whole system coordination, flexibility markets, asset optimisation, and digitalisation.

Digital and platform-based innovations

Projects such as HV Auto Quote, which delivers instant, self-service high voltage (HV) connection quotes, and CLEO, a geospatial planning tool used by over 70% of local authorities in our region, demonstrate how digital platforms can transform customer experience and support net zero planning.

Solutions supporting vulnerable customers

Initiatives such as Spotlight and Power Protect ensure customers in vulnerable circumstances receive more proactive, personalised support. Innovations like Almee leverage AI to help customers access grants and assistance more easily.

Net zero and transport innovations

Projects such as Neat Heat, testing zero-emission boilers, and the Electric Thames trial for marine electrification, all demonstrate rapid progress in integrating emerging technologies.

Whole energy system demonstrators

Ideas such as Flex Heat Networks and cross-sector engagement through Blue Light reflect our growing focus on multi-vector, multi-stakeholder innovation.

Asset resilience and operational innovations

Projects like Our View, and CommsConnect highlight our commitment to improving reliability, operational efficiency, and communications resilience for both field teams and customers.

Data and digitalisation innovations

Initiatives such as CReDo+ and Open Maps focus on digital twins, interdependency modelling, and secure data-sharing to enable better planning, resilience, and targeted support.

Our pipeline covers a spectrum of Technology Readiness Levels (TRLs) and is designed to balance incremental improvements with transformative ideas, ensuring steady, pragmatic progress alongside more disruptive innovation.

3.3

The results we are delivering

During the first three years of RIIO-ED2, we rolled out 17 innovative solutions into business as usual (BAU). Along with the nine already embedded solutions from RIIO-ED1 and DPCR5 we have delivered £293m in smart benefits (77% of which were direct consumer benefits).

In 2025/26 we deployed four new innovative solutions into BAU:

Network Planning Tool: A single, standardised platform to support core Network Planning and Connections processes, including referral management and reporting. The tool enables improved data integrity, consistency and transparency by consolidating planning data into one system and reducing reliance on manual data handling. The solution is a result of our BFI project Optiplan;

LAEP+: A web-based, geospatial energy planning tool that supports local authorities in developing data-led Local Area Energy Plans (LAEPs). The solution deriving from the NIA funded project CLEO;

Chargepoint Navigator: A data and digital tool to support local authorities in planning and delivering public electric vehicle (EV) charging infrastructure. It brings together network data, planning inputs and deployment information into a single platform, enabling more efficient and data-driven decision-making. The solution came about from the project of the same name, funded through BFI; and

Pole Support: A steel truss reinforcement installed on existing wooden electricity poles to improve overhead line resilience through a more efficient alternative to full pole replacement. This was a fast follow solution from the United States.

Figure 1, right, provides UK Power Networks' full list of solutions in BAU, the funding mechanism, and the net benefits realised in the first three years of RIIO-ED2 as reported in our Innovation Measurement Framework (IMF) tables in the 2025/26 regulatory reporting packs to Ofgem.

Figure 1: UK Power Networks solutions in BAU

Solution	Deployed in	Funding	Net benefits realised (2023/24 – 2025/26) (£)
Active Network Management	ED2	NIC	218,775,778
Automated Power Restoration System	ED1	UKPN	24,576,280
Smart Connect (Transpower)	ED1	NIA	15,358,666
Timed Connection	ED1	UKPN	10,707,386
Pole Support	ED2	BFI	3,667,040
The Perfluorocarbon Tracer (PFT)	DPCR5	IFI	3,512,850
Spotlight	ED2	NIA	3,429,113
Chargepoint Navigator	ED2	BFI	2,702,340
Smart Traffic Lights Kent	ED1	UKPN	2,665,540
Pressurised Cable active management	ED1	NIA	2,345,274
Primary Outage Restoration Tool PORT	ED1	UKPN	1,804,580
LEAP+	ED2	NIA	1,130,520
Remote Portable Switch	ED1	NIA	960,290
LV interconnected pairs	ED2	BFI	648,620
LV Analytics Tool	ED2	UKPN	552,220
Arc Aid	ED2	NIA	357,409
Joint Shell	ED1	NIA	228,136
Network Planning Tool	ED2	BFI	129,550
Powercast	ED2	NIA	31,103
Concerto**	ED2	BFI	19,600
GHSS V1	ED2	UKPN	19,212
Emerge	ED2	NIA	930
Neighbourhood Green	ED2	NIA	98
Cleaner Engines/Hybrid Generators	ED2	NIA	-34,690
Power Protect	ED2	NIA	-40,816
HVAQ	ED2	NIA	-117,811

Highlights of our Network Innovation Allowance Project Portfolio

4.1

HeatScape

Background

Decarbonising heat is one of the biggest opportunities in supporting the UK's journey to net zero. Heat networks are recognised by the Government as a key part of this transition, highlighted in recent heat network market and zoning publications [2].Heat networks distribute heat from a central source to multiple buildings through a network of pipes, using technologies such as heat pumps, gas combined heat and power (CHP) generators, electric boilers or waste heat. Currently, heat networks account for around 3% of UK heat demand, but Government projections indicate this could rise to as much as 20% in the coming decades[3].

As heat networks transition their energy source from gas to electricity through technologies such as large heat pumps, they will have a material impact on electricity infrastructure capacity, particularly in constrained urban areas. However, heat networks also offer significant flexibility opportunities. Thermal storage allows heat pumps to operate during periods of lower electricity demand and store heat for later use.

By incorporating flexibility at the design stage, peak demand could be reduced, helping to ease pressure on the electricity network.

Building on earlier work carried out under the Flex Heat Networks project, HeatScape aims to improve understanding of the current and future state of heat networks, their growth and their decarbonisation as part of the net zero transition. By enhancing forecasting capabilities, the project supports better planning for network upgrades. It also explores customer attitudes towards flexibility to gain insight into the potential for future demand-side participation.

Experience To Date

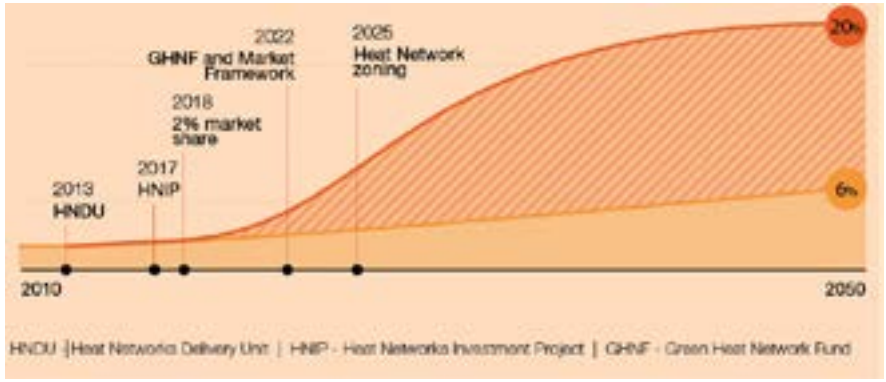
To understand how the growth and electrification of heat networks will affect the electricity network, we built an understanding of both existing and future heat networks across UK Power Networks' licence areas. Early in the project, we assessed how heat networks are typically sized and designed in practice, recognising that the way they are designed does not always reflect how they operate day to day.

We then brought together multiple publicly available datasets to:

- Map where heat networks are currently operating;
- Characterise their key features and scale; and
- Identify where new networks are most likely to emerge, particularly in areas where electrification could have the greatest impact on the local electricity system.

Building on this spatial foundation, we explored how different types of heat networks might decarbonise over time and how their operation could influence electricity demand.

Figure 2: Ambition: increase heat from networks to 20% - graph showing steady growth and high growth scenarios



2 UK heat networks: market overview (accessible webpage) - GOV.UK

3 ibid

4.1 CONTINUED

HeatScape

Drawing on real-world data and specialist modelling expertise, we assessed and compared three flexibility scenarios, to understand their role in managing peak demand:

Baseline (No Flex): Represents current operation, with no active flexibility measures. This acts as the reference point.

Flex: Assumes a limited degree of flexibility, such as small behavioural adjustments or modest use of thermal storage.

Flex plus: Reflects a more coordinated approach, incorporating thermal storage and smarter operational control to reduce or shift peak electricity demand. We then integrated these insights into UK Power Networks' forecasting system, enabling us to assess the impact of heat network electrification on the electricity network.

Alongside the technical work, we engaged with a range of customers, connected to a heat network to better understand attitudes towards building-level flexibility. Engagement took place through structured interviews designed to explore real-world experiences and considerations.

We deliberately included a mix of building types and customer roles to reflect the diversity of end-users and decision-makers across the network. Our findings reinforced the importance of maintaining comfort and ensuring decarbonisation works within real-world building operations.

Future Developments

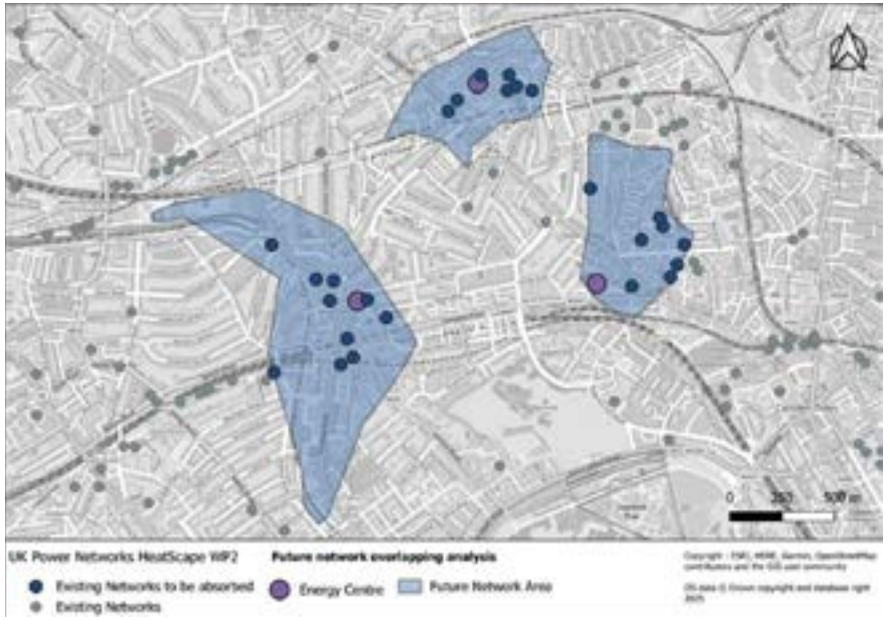
Over the coming year, we will complete the integration of our work into UK Power Networks' forecasting and planning processes. This will provide a clearer view of where electrified heat networks are most likely to emerge over the next decade and how they could affect the electricity network.

As part of the final phase of the project, we will use the results from our modelling and selected case studies to strengthen the project's overall business case, clearly setting out why this approach is needed, the value it can deliver, and how it can be put into practice. We will embed our understanding of heat network decarbonisation into everyday network planning.

Projected Roll-out Year

N/A - this is a research project expected to close in 2026

Figure 3: Example locations of existing heat networks and priority areas identified for future heat network development.



4.2

Greener Home

Background

UK Power Networks is working to deliver support at scale to vulnerable consumers at risk of being left behind by the energy system transition, with a target of supporting 500,000 customers by the end of the RIIO-ED2 regulatory period. Achieving these ambitious targets requires a step change in the volumes of vulnerable and disadvantaged customers that are engaged and supported. This is especially important in a context where other factors, such as the increasing cost of living, digital exclusion, increased inflation and increasing energy costs will contribute to increasing numbers of people at risk of being left behind.

The Greener Home project set out to develop a new digital tool (the Home Energy Saver website) that can provide a bespoke and personalised home energy action plan to customers. The website has been designed as a key service alongside existing delivery partners; delivering impactful services to a larger volume of customers and providing new options for consumers that would prefer to self-serve using digital channels.

Home Energy Saver aims to provide a 'one-stop-shop' of energy efficiency, behavioural change and income maximisation advice, empowering homeowners and tenants to optimise their energy consumption and reduce bills.

Key features include:

- A personalised energy plan, providing the customer with bespoke advice on how they can improve energy efficiency and implement low-carbon measures.
- An easy-to-use calculator so customers can check if they're entitled to benefits.
- An appliance calculator to understand how using appliances differently can help save money.

Figure 4: Example personalised energy plan

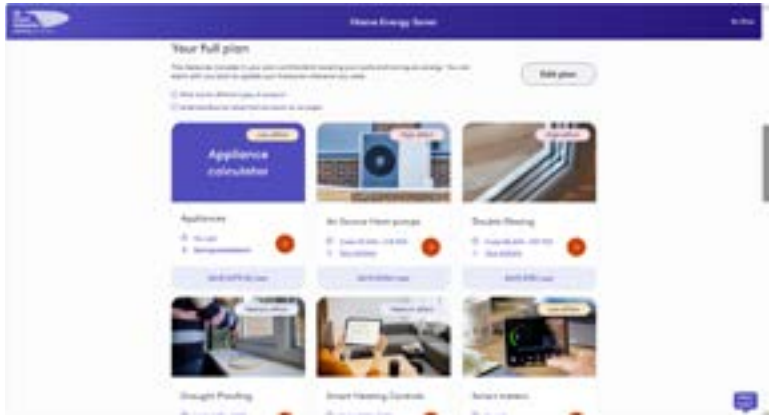


Figure 5: Example measures included in personalised energy plan

4.2 CONTINUED

Greener Home

Experience To Date

The first stage of the project was to build the initial concept. This included development of wireframes (sketch/blueprint of the website's layout and structure) and logic for the tool, with varying journeys created dependent on whether the customer has an Energy Performance Certificate (EPC). The product design and customer journey were tested with customers multiple times, and the feedback used to iterate and update the design. Testing was prioritised to ensure the tool's design was as applicable to the tool's target group as possible.

Once the customer journey was agreed, content for the website was created, and underlying figures (estimated cost for measures, carbon dioxide (CO2) emissions, average UK energy cost, etc) were researched. Content included the creation of detailed articles for 23 energy-efficiency and low-carbon technology (LCT) measures that customers can implement, providing information such as how the measure works, the benefits, permissions required and how to find an installer.

Development of the website was kicked off in parallel. The prototype and subsequent minimum viable product were presented for further rounds of customer testing, as well as quality assurance testing.

The website was first announced in October 2025 at UK Power Networks' Consumer Vulnerability Summit. It is currently in a trial phase, with low volumes of customers currently using the website. Customer feedback is being used to implement continuous improvements, while engagement with the website is gradually increased in parallel.

Future Developments

Alongside increasing engagement with the Home Energy Saver website, further enhancements are being scoped.

A scoping and prioritisation exercise for potential add-ons was completed in parallel to the initial website development. The two ideas selected to be taken forward from this exercise were a behaviour change game and an augmented reality visualisation tool.

Behaviour change game

Creation of a fun and engaging experience game to help customers understand why and how they could improve the energy efficiency of their home and save money in the process.

Augmented reality visualisation tool

Creation of an augmented reality visualisation tool to enable users to visualise energy efficiency upgrades/LCTs in their homes.

Proposals for both the game and the visualisation tool are currently being evaluated. Following the idea review stage, a decision will be made on whether one or both ideas will be developed in the next stage of the project.

In parallel to the development of the game and/or visualisation tool, a further scoping exercise will be undertaken, to understand additional datasets (both internally within UK Power Networks and externally) that could be incorporated into the website.

Developing and integrating additional enhancements into the Home Energy Saver website supports the project objective to create a 'one-stop resource' for energy-efficiency and LCT advice.

Projected Roll-out Year

2026

4.3

CommsConnect

Background

Electricity networks rely on resilient communication channels to enable safe and reliable operation of the system. In some instances, these essential communications are carried out over public mobile networks, creating a strong interdependence between DNO infrastructure and the performance of the mobile network. With mobile masts relying on an electrical supply to function, disruptions in either system can therefore impact the other, highlighting the need for improved visibility of how these networks interact.

CommsConnect addresses this gap by increasing UK Power Networks' understanding of the resilience and coverage of public mobile networks. The project introduces two complementary data-gathering approaches:

- Upgrading the software on existing substation mobile routers so they can monitor mobile network status, and
- Working directly with mobile network operators to access data on mast location.

Together, these methods create a wider picture of mobile network status, supporting more informed decisions about where resilient or alternative communication solutions may be required.

Ultimately, CommsConnect aims to reduce communication-related faults, improve system reliability, and strengthen operational coordination between DNOs and mobile network operators. This will be particularly insightful during storm events which have an impact on both electricity and mobile networks. By providing richer insight into mobile network behaviour, the project supports more resilient DNO communications and will contribute to a more reliable electricity network for customers.

Experience To Date

CommsConnect has made strong progress across both technical development and external engagement. We have established a productive partnership with a mobile network operator (MNO), sharing an initial trial dataset and beginning to explore the operational insights it reveals about network resilience and interdependence. The dataset detailed mast-level information, including Meter Point Administration Numbers (MPANs) and location data, allowing a comparison against UK Power Networks' connectivity records and identifying any mismatches for joint investigation.

This collaborative analysis is deepening our combined understanding of how the electricity and mobile networks interact, helping both organisations build the knowledge needed to deliver more reliable and resilient services for our respective customers in the future.

Prototype mobile network monitoring devices have been deployed to selected sites, supported by a temporary central server, which has helped refine the data requirements and informed a robust specification for the router software upgrade developed with UK Power Networks' subject matter experts.

CommsConnect has now received and begun testing the first version of this software update. Work is also underway with UK Power Networks architecture teams to determine how best to integrate this new data stream into central systems and shape cross business use cases. Initial data visualisations have been developed which can be seen in Figure 7 .

Figure 6: Prototype mobile network monitoring devices which were deployed at UK Power Networks sites

4.3 CONTINUED

CommsConnect

Future Developments

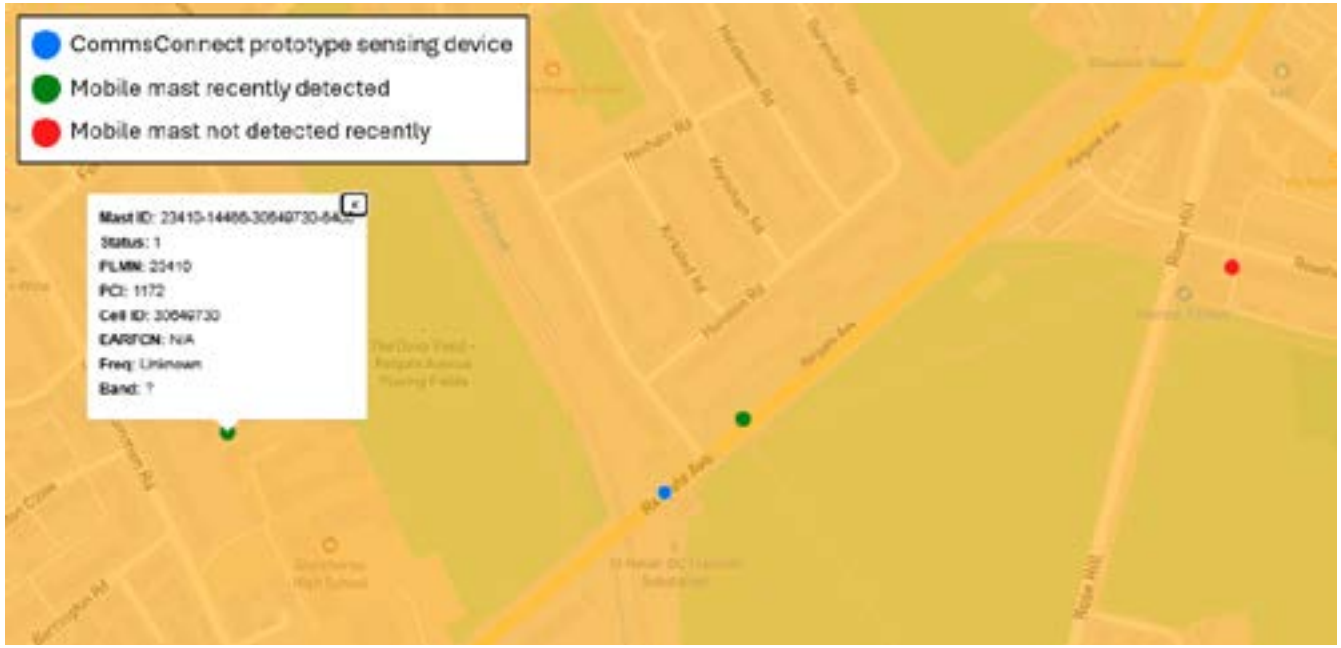
CommsConnect will continue to work with the router manufacturer to implement the agreed software specification on existing mobile routers and validate that the current update mechanisms support remote deployment.

Testing will begin on mobile routers not connected to any live operational network equipment to monitor performance, confirm compatibility across hardware and software versions. Once stable, a staggered rollout will then follow, with all data streamed to the centralised server for analysis and reporting. CommsConnect will finalise and embed the enabling software for our defined use cases, ensuring the new data stream delivers clear operational benefits and supports resilient, evidence-based decision-making in ensuring network resilience.

Projected Roll-out Year

2027

Figure 7: Initial data visualisation for collected data with prototype mobile network monitoring devices



4.4

Blue Light

Background

Emergency services face unique challenges in their transition to net zero carbon emissions, driven by the need to maintain exceptionally high levels of operational resilience, security and reliability while electrifying large, service-critical fleets. Their estates are often constrained restricted, often with limited space for additional electrical assets, combined with complex operational requirements that significantly increase the cost and complexity of electrification.

Emergency services operate extensive estates and fleets across all Distribution Network Operators (DNOs), presenting a system-wide challenge but also an opportunity to develop scalable, repeatable approaches to decarbonisation.

However, there remain significant disparities in decarbonisation maturity across police, fire and ambulance services, and within individual organisations, particularly between fleet and estates teams. As electrification accelerates, this is driving an increasing volume of complex, time-critical connection applications.

With defined decarbonisation targets now in place across all emergency services, driven by the UK's legally binding net zero 2050 commitment and reinforced by sector-specific public sector requirements such as the Public Sector Decarbonisation Scheme, Fleet Zero Emission mandates, and local authority/ blue-light sustainability strategies demand for timely, well-informed engagement with the electricity network is expected to grow. These policies require rapid transition to low-carbon fleets, buildings and operational estates, including the widespread rollout of EV charging, heat decarbonisation, and energy-efficiency measures. Without improved coordination, smarter tools and earlier visibility of network constraints and opportunities, this increase in demand would result in inefficient or duplicated applications, greater resource burdens for DNOs, and a fragmented picture for strategic network planning.

The Blue Light project aims to address these challenges by developing a targeted digital solution that enables emergency services to plan electrification across their estate more effectively, improve the quality of connection applications, and provide UK Power Networks with earlier, more credible visibility of future demand.

Figure 8: Electric charging bays for East of England Ambulance Service

Experience To Date

Following initial research and engagement phases, the project progressed into user testing firstly at a high level in phase 1, and then in one-to-one engagement sessions in October 2026 to validate the proposed solution design. Clickable wireframes were developed to test how emergency services would interact with the tool and whether it met their operational, technical and strategic needs.

In total, 78 individuals from 29 emergency services organisations were engaged across the three blue light services, comprising 10 police, 14 fire and rescue, and 5 health organisations. Engagement was delivered through nine structured sessions, including six single-organisation sessions, two multi-organisation sessions, and one Emergency Services Forum.

4.4 CONTINUED

Blue Light

Feedback from across the sector demonstrated strong and consistent endorsement of the proposed tool. Of the 78 individuals who engaged in testing the tool, users identified clear strategic value in using the tool to support decarbonisation planning, understand network capacity, build business cases and integrate electrification into wider resilience planning. Many users stated that they would actively use the tool and requested early access, noting that even a minimal viable version would deliver significant benefit compared to existing spreadsheet-based and fragmented approaches.

User testing provided a robust evidence base to refine both functional and non-functional requirements. Key themes included the critical importance of data security and access control, particularly for sensitive and covert sites; the need for clear, intuitive representation of site capacity and headroom; and strong demand for forward-looking scenario modelling that reflects real operational constraints. Users also emphasised the importance of modelling load management options, providing indicative cost and lead-time information, and enabling portfolio-level site prioritisation aligned to funding timelines and operational risk.

Crucially, the testing confirmed that widespread adoption depends on a simple, guided user experience that supports both novice and advanced users without extensive training. This learning directly informed final iterations to the wireframes and shaped the decision to focus on a clearly defined minimum viable product that balances usability, security and network value.

Figure 9: Blue Light wireframe dashboard view used for user testing

Future Developments

The next phase of the project will build on the validated wireframes and user feedback to deliver a minimum viable product, followed by structured testing with selected emergency services and UK Power Networks "super users". This phase will ensure that the tool performs effectively in real-world planning scenarios and delivers measurable benefits in terms of improved application quality, reduced iteration, and earlier visibility of demand.

Testing will inform final refinements prior to potential transition into BAU, with governance, data security, ownership and support arrangements established to enable long-term adoption. A defined handover and hyper-care period will support early operational use and mitigate delivery risks.

By embedding user-validated design, improving early optioneering, and strengthening coordination between emergency services and the network, Blue Light has the potential to deliver enduring benefits for both emergency services decarbonisation and efficient network planning as demand accelerates into ED3.

Projected Roll-out Year

2026

Figure 10: London Fire Brigade interior of vehicle garage

4.5

Engage+

Background

UK Power Networks is committed to identifying and providing support to customers in vulnerable situations during power outages through our Priority Services Register (PSR). Eligible customers include those that rely on electricity to power medical equipment, have a chronic illness or have children under the age of five. During a power outage PSR customers are offered support such as a priority number that they can call 24 hours a day, text and voice message alerts with progress updates, and hot meals depending on their needs and the situation.

We work across a range of channels and organisations to promote the PSR to eligible customers and help them to register. However, many eligible customers are still facing barriers to registration, such as awareness, perception and understanding of the service.

This project is undertaking targeted research to identify these barriers and develop methods of overcoming them. These methods include applying behavioural science to PSR registration and taking a fresh approach with new sectors.

Figure 11: Working with healthcare organisations will make the registration process easier for our customers

Experience To Date

The COM-B model is a behaviour change framework considers three necessary components: capability (C), opportunity (O) and motivation (M) for a behaviour (B) to occur. Behavioural science experts applied the COM-B model to analyse existing UK Power Networks PSR customer journeys and materials. Supplemented by customer interviews, the research helped validate early insights and informed design-led recommendations for improvements to the website and registration process. These include restructuring to reduce the number of pages and simplifying key wording.

We also surveyed over 2,400 customers to gather their thoughts on the PSR service. The research revealed that 86% of people are likely to sign up if their GP recommended it, 81% are likely to sign up if their hospital recommended it, and 79% would follow guidance from other health or social care professionals. These trusted voices are central to the new approach: making sure eligible customers hear about the PSR from trusted professionals and at the right time.

Over 80% of customers agreed that UK Power Networks and the NHS should share data to enable eligible customers to be registered on the PSR. This validates that a targeted approach to data sharing with clear benefits is something that customers will support.

Future Developments

Now that we have evidence that customers recognise the benefits of sharing relevant data between utilities and healthcare sector, we are engaging with organisations to identify a route forward. By collaborating and running trials with healthcare organisations, we can develop appropriate routes to data sharing and identify best practice that will enable wide-scale rollout of this approach. This will enable increased benefits to medically dependent customers through timely information sharing.

Several 'quick wins' were also identified through the research, with alterations to the existing web pages already in progress to ensure that benefits can be delivered swiftly. This will enable all customers easier access to our services and feel informed about the support available.

Projected Roll-out Year

2027

4.6

Flex Forward

Background

Flex Forward aims to explore and evidence how distribution-level flexibility can deliver value beyond its current primary use of deferring traditional network reinforcement.

As the GB electricity system transitions towards net zero, increasing levels of distributed energy resources, electric vehicles, heat pumps, and variable renewable generation are placing new and more complex demands on local electricity networks. These growing challenges include voltage sensitivity at low voltage levels, constrained network capacity in specific locations, increasing curtailment rates, and reliability demands.

While flexibility has the potential to support these needs, its application in these areas remains under-explored and insufficiently evidenced, and current regulatory and commercial frameworks do not yet incentivise or support its use beyond reinforcement deferral cases.

Flex Forward responded to this gap by developing a structured, evidence-led research to identify, prioritise, and assess high-impact flexibility use cases.

The project informs fair and efficient investment decisions between traditional network solutions and flexibility, accelerates LCT connections, and supports the evolution of flexibility services within future DSO arrangements.

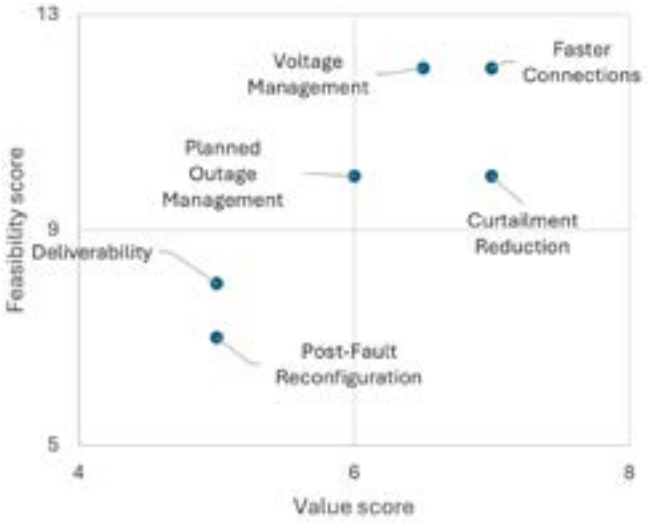
Experience To Date

Flex Forward has examined how flexibility could help distribution networks respond to the growing pressures created by the rapid uptake of LCTs and increasing demand for electrical connections.

The project considered a broad set of potential flexibility applications and applied a structured prioritisation process to identify those with the greatest potential system, customer, and societal value. This process focused on high-level assessment of benefits, feasibility, and alignment with future network and regulatory needs, rather than detailed product or market design.

Through this work, Flex Forward has demonstrated that flexibility could play a meaningful role in supporting faster connections, managing domestic voltage fluctuations, reducing curtailment, and supporting resilience during planned outages. Collectively, these use cases show how flexibility could help optimise existing assets, reduce costs, improve customer experience, and accelerate progress towards net zero objectives. Use cases were scored as illustrated in Figure 12.

Figure 12: Mapping potential value vs feasibility of shortlisted flexibility use cases



4.6 CONTINUED

Flex Forward

Higher potential use cases include flexibility to support faster customer connections, address emerging voltage challenges driven by LCT uptake, reduce curtailment, and mitigate the impacts of planned outages using dispatchable demand and distributed resources to help manage constraints, maintain service levels, and reduce customer disruption while network work is carried out. Key value drivers identified for these, as well as their counterfactuals, are presented in Figure 13.

The analysis has reinforced that, while flexibility is already well established as a congestion management tool, its potential value in other operational and planning contexts is not yet fully recognised or consistently reflected in investment decisions. Flex Forward has therefore focused on building an evidence base that highlights where flexibility could provide credible alternatives or complements to traditional approaches, and where further validation would be required before wider adoption.

Figure 13: Value drivers and counterfactuals

Use case	Primary value drivers	Counterfactual
Accelerating connections	Customer and societal benefits	Customer waits for reinforcement to complete
Reducing curtailment	Customer and societal benefits	Higher curtailment and increased redispatch costs
Managing local voltage	Reduce network capex and societal benefits	Reactive reinforcement triggered by complaints
Managing planned outages	Reduce network OPEX, and customer benefits	Higher delivery costs due to compressed outage windows

Future Developments

Building on this learning, Flex Forward identifies a clear pathway for progressing flexibility beyond its current role and into a broader set of network applications. The project recommends prioritising further validation activity for a small number of high-impact use cases where flexibility could deliver significant customer, system, and decarbonisation benefits, while remaining mindful of operational risk and regulatory readiness.

Future activity will focus on alignment with other DNOs through the Electricity Networks Association (ENA), to update the Common Evaluation Methodology and regulatory engagement with Ofgem to discuss how wider value from these use cases can be incentivised and unlocked, especially when it does not result in DNO benefits.

More broadly, the outputs from Flex Forward are intended to inform UK Power Networks' longer-term flexibility strategy and engagement with Ofgem. By providing a structured and transferable approach to assessing new flexibility applications, the project supports fair and efficient investment decisions and helps ensure that flexibility services remain scalable, future-proof, and aligned with regulatory expectations.

Flex Forward therefore represents an important step in moving flexibility from a primarily tactical tool to a more strategic component of distribution network planning and operation. The project establishes a foundation for continued innovation, enabling distribution networks to respond more effectively to system change, support the transition to net zero, and deliver value for customers and the wider energy system.

Projected Roll-out Year

2026

4.7

Spotlight

Background

Supporting customers in vulnerable circumstances is central to UK Power Networks' role as a responsible DNO. UK Power Networks has committed to a fair, inclusive transition to net zero, one that ensures vulnerable customers receive tailored support and are not left behind as the energy system evolves. The transition to net zero, rising cost of living, increasing digital exclusion and shifting customer needs have created new and harder to identify forms of vulnerability. Current industry methods to identify vulnerable customers rely heavily on summarised data or demographic trend-based indicators, which lack the precision required to meet these commitments.

Spotlight was conceived to address this challenge by developing a data led, household level vulnerability identification model, harnessing advanced data modelling and drawing on a wider set of insight sources than has ever been used in the UK energy sector. The aim was to produce a more accurate understanding of customer need and enable smarter, more proactive, and tailored engagement strategies, resulting is a transformative shift from broad demographic assumptions to household-level precision.

Experience To Date

Spotlight brings together advanced machine learning, clustering, and classification techniques to identify customers eligible for the PSR and customers at risk of fuel poverty (FP) and being left behind in the net zero transition at a level of granularity not previously available to UK Power Networks.

Early stages of the project involved significant data engineering to consolidate PSR information stored across different platforms and integrate multiple external sources. Establishing a single source of truth required extensive cleansing, and new validation rules developed jointly with customer services subject matter experts (SMEs). Despite delays due to enterprise data migrations, the unified PSR register is now established and underpins the model's outputs.

Additional data enrichment included integrating:

- Mobility data to infer household composition and behavioural patterns
- Government datasets
- Social welfare indicators
- Property and demographic data

This foundation enabled a multi-dimensional view of vulnerability far richer than traditional utility datasets.

Spotlight's PSR model rapidly showed highly accurate predictions at the household level, allowing UK Power Networks to get customer consent and enrol customers over the age of 65 years old. This required additional analytical refinement of the model and external data to ensure sufficient confidence levels. This allowed UK Power Networks to run onboarding trials, reaching more than 517,000 high-confidence eligible customers.

The FP and leaving no one behind (LNB) models have also reached maturity, producing scalable and actionable outputs now surfaced directly through a production-ready dashboard.

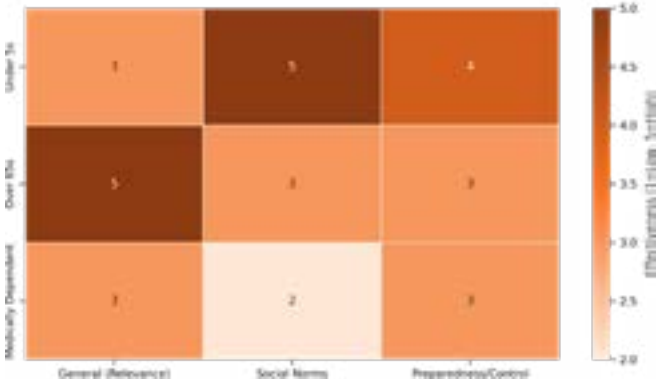
To validate predicted eligibility and understand communication preferences, Spotlight integrated a structured customer engagement testing component. A specialist behavioural-science-driven marketing agency, Social Change, was selected to run controlled A/B tests, a technique that compared email, SMS, letters, and calls to determine which performs better based on engagement and sign-up rates.

These campaigns served as a feedback mechanism to:

- Improve model accuracy
- Identify which engagement channels work best for different customer groups
- Provide ground-truthing that refines vulnerability classification over time

The engagement tests confirmed that digital channels are most effective and that messaging needs vary significantly by demographic, as illustrated in Figure 14. These findings feed directly back into the Spotlight dashboard, which aimed to recommend the best channel and content for each customer segment.

Figure 14: Messaging Content Effectiveness by Audience



4.7 CONTINUED

Spotlight

Spotlight is supported by a fully operational Power BI dashboard, enabling support teams to:

- View eligibility and vulnerability predictions at individual household level,
- Explore data through geographical mapping (Figure 15),
- Download prioritised customer lists for operational use,
- Access a dedicated campaign insight view showing open, click and registration patterns.
- This dashboard provides a single authoritative interface through which UK Power Networks teams can action Spotlight insights at scale.

Figure 15: geographical dashboard view of eligible PSR households

Future Developments

Spotlight is transitioning from innovation project to BAU handover. Once adopted, Spotlight will serve as the intelligence engine behind UK Power Networks' customer vulnerability support. By identifying needs earlier, predicting risk more accurately and connecting customers through channels they respond to, UK Power Networks will be able to deliver support more efficiently and at greater scale, strengthening both societal impact and operational performance.

Projected Roll-out Year

2026

4.8

AeroPrune

Background

Vegetation growing too close to overhead power lines remains one of the most frequent causes of damage and customer supply interruptions on electricity distribution networks. To maintain safe clearance distances, UK Power Networks carries out extensive vegetation management across its overhead network. Much of this work requires skilled operatives to manually cut branches using chainsaws and other tools while working at height, often in difficult or restricted access locations. These activities are inherently risky and can be time consuming, particularly where mobile elevated work platforms (MEWPs) and other heavy equipment cannot access due to difficult terrain, narrow access routes, or environmental constraints.

As the network is evolving to support more distributed energy resources and increasing electrification, maintaining high reliability standards has become even more important. Reducing vegetation related outages directly supports this goal by minimising the impact of power cuts. However, traditional vegetation clearance methods offer limited opportunity to meaningfully reduce safety risk or deliver step change in productivity.

The Aero Prune project explores whether drone based cutting tools can provide a safer and more adaptable method for removing problem vegetation. By enabling remote cutting from an aerial platform, drones could access locations where MEWPs cannot reach and reduce the need for operatives to work at height or in hazardous environments.

The project will assess the technical feasibility, safety considerations and operational potential of both retrofitted commercially available drones (Option 1) and bespoke designs for tree cutting in the vicinity of overhead network (Option 2).

If successful, drone enabled vegetation management could significantly improve the resilience of the overhead network while enhancing the safety of the workforce.

Figure 16: Option 1 retrofit of a commercially available 6 rotor drone (computer aided design model)

Figure 17: Option 2 custom built drone design concept

Experience To Date

The Aero Prune project has progressed significantly across both solution options, with tangible outputs now emerging from early design work. Option 1, which focuses on retrofitting a commercial off-the-shelf drone with an integrated cutting tool, has moved from concept into a physical build for testing and evaluation. A design has been produced detailing payload carrying capacity, cutting tool selection, and safety considerations.

The first prototype unit has now entered controlled laboratory testing, where work is underway to assess cutting performance, flight stability, and balance under load. Early bench test results are helping to validate that the system can safely cut branches within the targeted diameter range. These controlled environment trials are a critical step before advancing toward outdoor testing.

4.8 CONTINUED

AeroPrune

In parallel, Option 2, the custom-built drone, has advanced through early-stage engineering and is now fully defined within a computer aided design (CAD) based design environment. Detailed CAD models and simulation outputs have been completed, allowing assessment of control characteristics, payload capacity, and overall feasibility for vegetation management tasks.

The project team, supported by project partner Acuity Robotics, is now costing this bespoke drone and evaluating the commercial and operational viability of deploying such a system at BAU scale. This includes consideration of manufacturability, maintenance requirements, pilot training implications, and alignment with governance and compliance frameworks required for future field use.

The progress on both options provides a strong foundation for the next stages of prototype refinement, compliance review, and planned field demonstrations, positioning the project well for assessing suitability for BAU adoption.

Future Developments

The project will continue with controlled outdoor testing of Option 1, the retrofitted commercially available drone, to validate cutting performance, flight stability, and operational safety. These results will determine whether the solutions are suitable for a full proof of concept phase, including more extensive field trials. In parallel, work will begin on building and testing Option 2, the custom-built drone. Option 2 is being developed specifically to meet the vegetation management needs of DNOs, offering capabilities that cannot be achieved through commercial off-the-shelf drones.

It is likely that a future project phase will be required to assess feasibility, manufacturability, and cost effectiveness to inform whether Aero Prune should progress toward a potential BAU deployment.

Projected Roll-out Year

The pathway to BAU will be better understood upon completion of the project.

Figure 18: Prototype vegetation cutter head

4.9

Indus 2.0

Background

Indus 2.0 addresses the challenge of industrial decarbonisation and its implications for the future of electricity and gas networks. A key barrier to effective planning is the uncertainty around when and how industrial sites will transition to low-carbon energy sources, making it difficult for networks to forecast load growth and make informed investment decisions.

The project aims to improve this by sharing data between DNOs and Gas Distribution Networks (GDNs) to bridge this gap. This includes identifying the locations of industrial customers and understanding their current energy use to better understand the options for decarbonisation of these dispersed sites.

With access to shared gas and electricity data, Indus 2.0 developed a range of possible decarbonisation pathways for industrial users which span electricity, hydrogen, blended hydrogen and natural gas, and biomethane. These scenarios will help DNOs and GDNs plan more accurately and proactively for the infrastructure and services needed to support net zero.

By addressing these factors, Indus 2.0 will equip network operators to better support industrial customers, reduce planning uncertainty, and ensure networks remain an enabler to decarbonisation.

Experience To Date

Over the past year UK Power Networks has partnered with SGN, the National Energy System Operator (NESO) and Guidehouse to develop a range of possible decarbonisation pathways for industrial users. This work has highlighted where electrification, hydrogen, and biomethane are likely to play the most significant roles and identified the sectors and locations where change is expected to be most material. This proof-of-concept focused on the overlapping licence areas between UK Power Networks and SGN in the southeast of England (see Figure 19 right).

A key outcome is the development of a consistent, sector-level methodology for assessing technology adoption across the four Future Energy Scenarios pathways which are used in long-term energy system planning in GB. This enables a robust view of how industrial sites may transition away from natural gas, and how the potential decarbonisation options change the future electricity and gas demand at a site. For electricity networks in particular, mapping site-level forecasts to primary substations provides early visibility of where electrification could drive network reinforcement needs, while also highlighting areas where hydrogen or biomethane clusters could emerge to support future gas network planning.

The modelling shows a clear divergence between sectors. Industries which use low-temperature steam and hot-water (e.g. dairy, breweries, pharmaceuticals) tend to gravitate toward electrification due to strong technical fit and cost advantages, whereas sectors which rely on high-temperature and direct-fired process (e.g. bakeries, non-ferrous metals, gypsum) exhibit more uncertainty, with electrification and hydrogen each favoured under different pathways.

Figure 19: Scope of Indus 2.0 modelling

4.9 CONTINUED

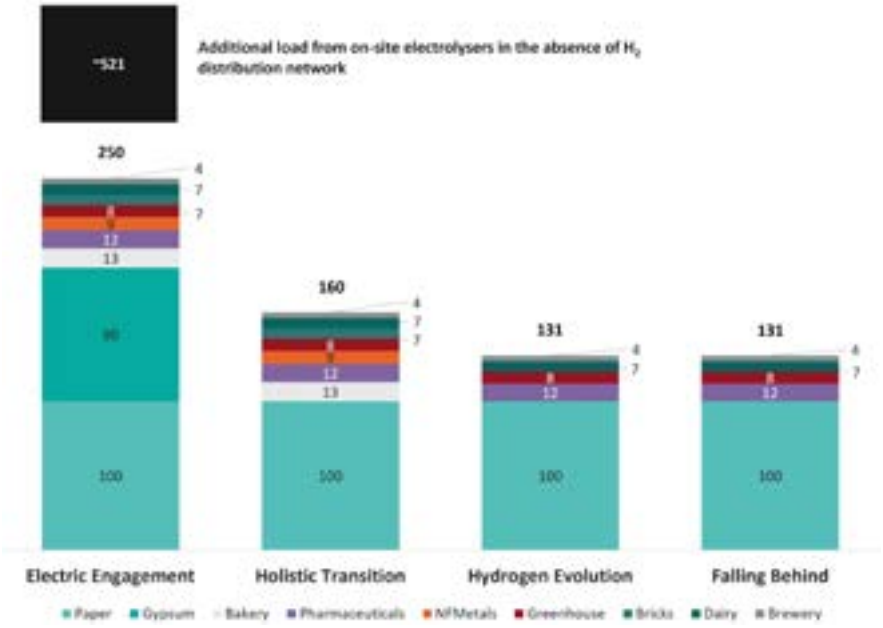
Indus 2.0

For greenhouse sites, biomethane emerges as the preferred route across scenarios. This is driven by the continued requirement for CO_2 to support crop growth rather than by heat demand alone.

Looking ahead, the results indicate that industrial decarbonisation could contribute between 130 and 771 MW of additional electrical load by 2050 (see Figure 20), with most growth occurring after 2040. This indicates that even small, geographically dispersed sites collectively represent a meaningful share of this increase, underscoring the value of early visibility for long-term planning (see Figure 20 right).

More broadly, the project provides an evidence base to inform future engagement with system operators, policymakers and regulators. By establishing a transparent and repeatable approach to evaluating industrial decarbonisation pathways, it supports more coordinated network planning and helps ensure that both gas and electricity networks remain prepared for evolving patterns of demand in the transition to net zero.

Figure 20: 2050 Electric Load from process heat decarbonisation



Future Developments

This project closed at the end of May 2026.

As the project comes to a close, the project team are exploring ways to unlock similar data through arrangements with other GDNs and data providers. The project team has also engaged with the Data Sharing Infrastructure (DSI) being developed for the energy system by NESO throughout the project and has explored this as an option for sharing similar data in future. The team are also engaging with other DNOs and GDNs to disseminate the results of the modelling.

Projected Roll-out Year

N/A this is a research project which closed in May 2026.

4.10

Hydra

Background

The operating environment for electricity networks is evolving. The transition to net zero will see the network become increasingly complex, and we must continue to facilitate this opportunity by embracing digital advances to accommodate increasing LCTs and flexible demand.

This expanded digital footprint means that we need to continue to enhance our control systems to provide the best possible resilience and security, to guard against scenarios such as cyberattacks, system failures, or loss of infrastructure. Hydra is exploring the development of novel architecture and recovery automation for distribution network control. Working with our Partner GE Vernova, we are exploring the development of a global-first platform which will provide an advanced level of security and deliver rapid recovery from failures and loss of control.

Experience To Date

Work so far has focused on the design of an environment that will let us evaluate the capabilities of Hydra and prove that it is able to provide a secure and resilient platform and provide confidence that it can operate in a high transaction volume production environment.

Progress has been strong, with infrastructure deployed across all three of UK Power Networks' licence areas.

These advances are already bearing fruit: we have developed initial components to allow us to demonstrate that some elements of recovery can be automated. We have also been able to trial the ability to take regular and rapid control system backups. This represents a significant improvement over the status quo, where backups take many hours. Work is currently in progress to define the future software enhancements that will be deployed to support the full solution.

The innovation within the Hydra project is not limited to technology. An industry-first approach to control system resilience requires changes to business processes and procedures. These new approaches must be equally robust and not introduce procedural weaknesses that could undermine the technological capabilities we are exploring. In the initial phase of the project, we have been developing and documenting several critical business processes that will need to be in place to allow effective operation of Hydra.

Figure 21: Infrastructure has been deployed across all three of UK Power Networks' licence areas

Future Developments

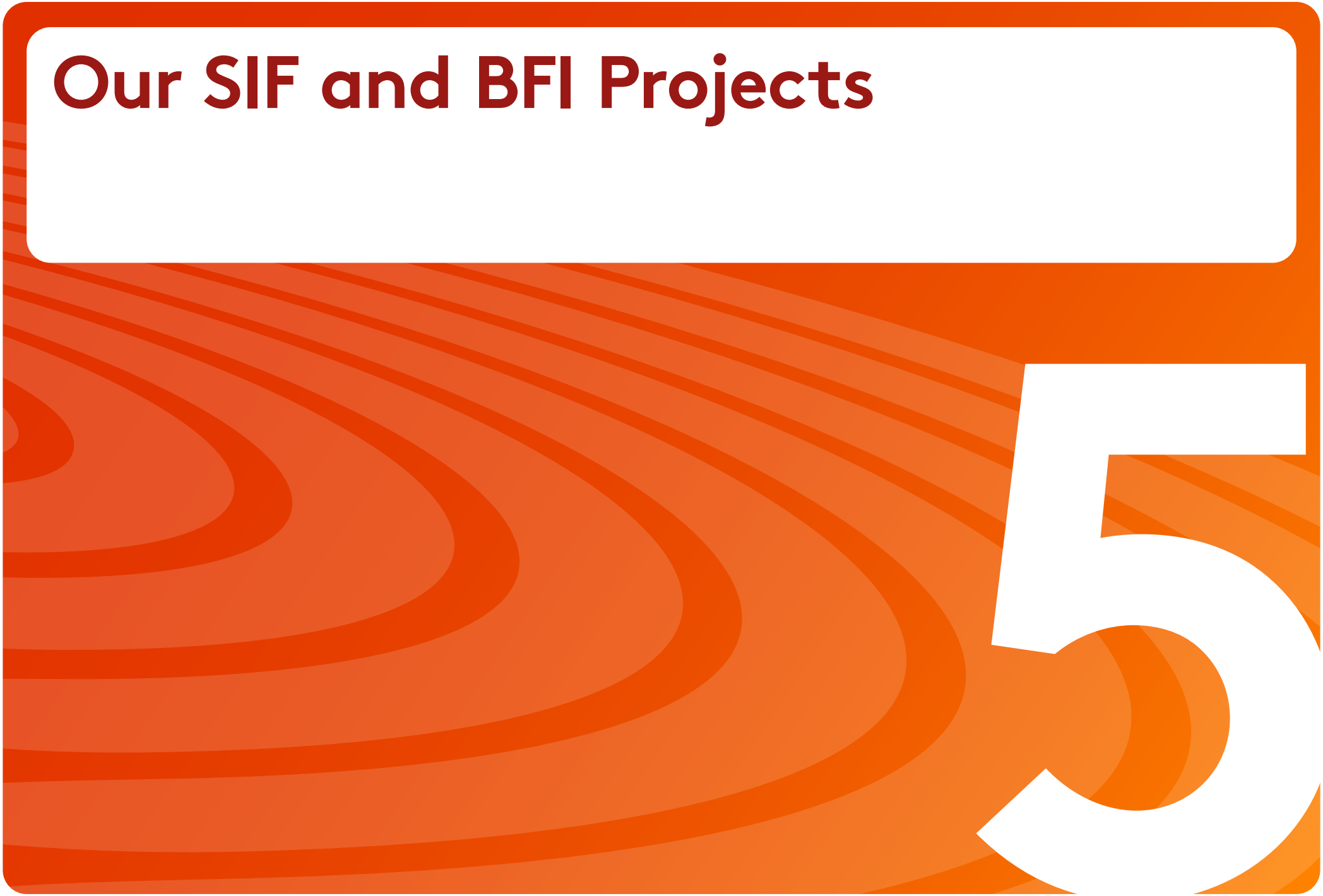
The next steps will see further components of the infrastructure developed and tested. This will include elements such as monitoring, automated verification of backups, dynamic server management, and issue detection.
As the project progresses, regular cybersecurity reviews will be undertaken to assess the effectiveness of the approach and identify any additional improvements that can be made.

Further development of the relevant business processes will take place. These will define the most effective approaches for activating Hydra's capabilities under critical scenarios such as cyber-attacks. These steps will move us towards assessing the suitability of Hydra for operation in a production environment and lay the groundwork for a potential BAU rollout.

Projected Roll-out Year

The project is expected to complete in April 2028.

Our SIF and BFI Projects



5.1

Our Strategic Innovation Fund (SIF) Projects

UK Power Networks remains highly active and responsive to the evolving SIF challenge rounds, supported by a dedicated innovation team that ensures we engage fully with opportunities across the programme.

Throughout RIIO-ED2, we applied SIF funding across all our innovation themes, deliberately participating in a wide range of challenges rather than concentrating on a single area. This approach enabled us to secure 55 SIF projects and £46 million in funding more than any other DNO to date with completed projects consistently achieving strong UK Research and Innovation (UKRI) end-phase scores, averaging 4-out-of-5 for overall delivery.

To manage innovation risk effectively, SIF projects are delivered through phased stages Discovery, Alpha and Beta phases. We prioritised building a strong pipeline of Discovery projects during the first half of RIIO-ED2; this allowed us to identify which concepts should progress into Alpha and subsequently into Beta demonstrations later in the price control period. As a result, we now have five Beta projects in delivery, collectively expected to deliver more than £6 billion in wider-system benefits. We have also continued to capture and share learning from Discovery and Alpha projects to support the wider energy system's transition to net zero.

Figure 22: List of planned Beta projects with description

UK Power Networks' SIF Beta projects	Description
SHIELD	Deployment of photovoltaic (PV) and battery under a unique social ESCo and innovation technology heating solution using waste heat from a distributed data centre located in individual homes, targeted at low-income homes. Trialling the ESCo model and technology providing low-cost heating and electricity.
CReDo+	Project delivering a climate resilience digital twin to map cross sector network assets, model impact to extreme weather scenarios and identify mitigation measures with full cost benefits analysis in support of network resilience planning
Heatropolis	Heatropolis is pioneering a first-of-its-kind commercial and technical solution to create a smarter, more flexible electricity and heat network. By combining flexibility services, innovative connection arrangements, thermal storage and smart controls, the project aims to reduce electricity demand from low-carbon heat networks at peak times, helping to avoid unnecessary network upgrades.
Wayl-ease	Working with landowners to develop a user facing consents portal which will streamline the customer journey in setting up new wayleave agreements for poles on their lands.
SNUG	SNUG aims to deliver a new flexibility mechanism that is not reliant on smart meters, and enables more effective coordination between social landlords, flexibility aggregators and DSOs.

5.2

Our Business Funded Innovation (BFI) Projects

In RIIO-ED2 to date we have spent over £32m on BFI – this demonstrates UK Power Networks' commitment to the value of innovation its benefits for the organisation and our customers.

We have worked to improve collaboration between our innovation teams and wider business units to ensure activities remain aligned with organisational priorities. As a result, innovation now operates as a service provider, responding directly to business and customer-identified challenges.

Key elements of this approach include:

Listening first

The innovation team runs workshops and engagement sessions across the business to gather problem statements and identify priority areas. Team members, including senior stakeholders, are actively involved in governance meetings, steering groups, and safety forums to ensure initiatives remain closely aligned with operational priorities.
Case study: The 1Streetworks project is a pilot of automated traffic management planning platform generating compliant traffic management plans in circa two minutes to accelerate quoting, improve compliance, and reduce streetworks delivery delays.

Early validation

Insights gathered from engagement sessions guide our horizon scanning activities and the innovation challenges we set. Once a clear business need is identified, the team engages the wider market to seek potential solutions. These are brought back to the business sponsors early for validation and co-development, ensuring projects are shaped collaboratively and avoiding the risk of delivering fully formed solutions without business ownership.
Case study: The EcoVAR low-voltage regulator project is being trialled to manage voltage and enable more LCT connections.

Active sponsorship

Projects require active sponsorship from senior managers to ensure understanding of the innovation and its benefits, provide ongoing support, and escalate issues where necessary. Sponsors also play a key role in deciding whether to continue or stop projects that lack value or engagement. This approach has been highly successful within the business, with senior stakeholders actively engaged, now often initiating ideas with the Innovation team rather than waiting to be consulted. To date, it has been used primarily within BFI innovation, but looking ahead, we are exploring how the same principles can be applied to other funding mechanisms, including SIF and NIA-funded projects.

Our Network Innovation Allowance Portfolio

6.1

Our Network Innovation Allowance Portfolio

Reference	Project Name	Research Areas	Start Date	End Date	Budget
NIA_UKPN0090	Flex Heat Networks	Whole energy systems	01/07/2023	31/08/2025	£501,600
NIA_UKPN0092	Spotlight	Consumer Vulnerability	01/10/2023	30/04/2026	£2,370,000
NIA_UKPN0100	Trading Connections: Exploring a novel approach to connections queues	Net zero and the energy system transition	01/02/2024	30/07/2026	£773,000
NIA_UKPN0101	Innovation Highway	Net zero and the energy system transition	30/05/2024	30/04/2025	£1,720,000
NIA_UKPN0102	Blue Light	Whole energy systems	30/09/2024	31/03/2027	£1,188,442
NIA_UKPN0103	Aimee	Consumer Vulnerability	30/11/2024	30/11/2026	£1,389,091
NIA_UKPN0104	AI for Visibility and Forecasting of Renewable Generation	Flexibility and market evolution	31/10/2024	30/07/2026	£389,444
NIA_UKPN0105	Keeping Comms Open	Consumer Vulnerability	31/01/2025	31/12/2027	£635,102
NIA_UKPN0106	CommsConnect	Optimised assets and practices	31/01/2025	30/11/2026	£626,972
NIA_UKPN0107	Engage+	Consumer Vulnerability	01/04/2025	31/08/2026	£706,088
NIA_UKPN0108	Greener Home	Consumer Vulnerability	28/04/2025	30/09/2026	£1,716,885
NIA_UKPN0109	Indus 2.0	Whole energy systems	01/04/2025	30/05/2026	£663,208
NIA_UKPN0110	HeatScape	Whole energy systems	01/04/2025	31/07/2026	£809,879
NIA_UKPN0111	Python Power	Data and digitalisation	25/08/2025	31/03/2026	£358,000
NIA_UKPN0112	Powercast 2.0	Data and digitalisation	30/10/2025	28/02/2026	£49,583
NIA_UKPN0113	Click & Quote	Net zero and the energy system transition	01/11/2025	30/09/2026	£634,392
NIA_UKPN0114	Flex Forward	Flexibility and market evolution	17/10/2025	31/03/2026	£171,000
NIA_UKPN0115	Hydra	Net zero and the energy system transition	31/10/2025	30/04/2028	£4,535,345
NIA_UKPN0116	AeroPrune	Optimised assets and practices	01/12/2025	30/09/2026	£146,000
NIA_UKPN0117	Network Exchanger Transformers NExT	Net zero and the energy system transition	01/02/2026	30/05/2027	£531,091
NIA_UKPN0118	Loadscape	Data and digitalisation	23/02/2026	23/02/2027	£458,488
NIA_UKPN0120	PULSE (Patterns of Usage and Load for Support Evaluation)	Data and digitalisation	02/03/2026	31/12/2027	£1,037,000

UK Power Networks
Delivering your electricity

Innovate with us!

We believe that collaboration is key for successful innovation, and our door is always open for new proposals. If you have an idea or want to collaborate with us, we would be delighted to hear from you.

Please get in touch at
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