UK Power Networks
Delivering your electricity

RIIO-ED2 Innovation Strategy 2025 Update

Contents

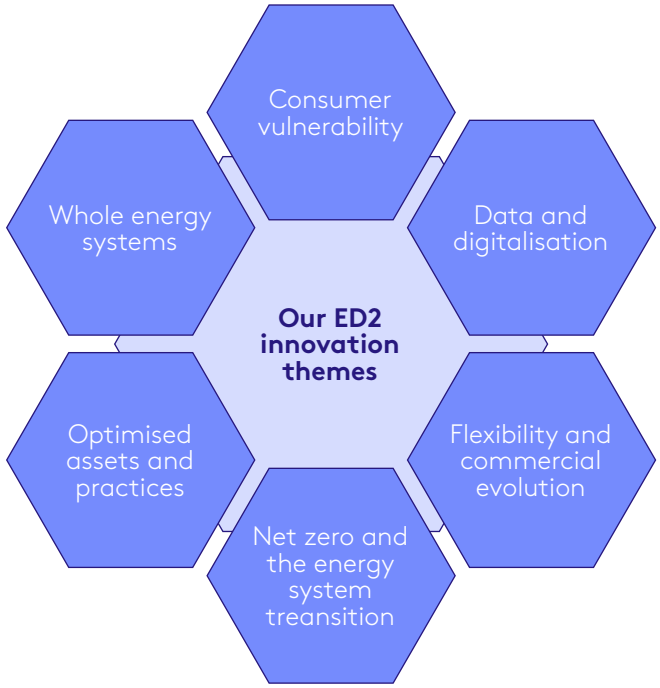
Executive Summary

UK Power Networks is refreshing its RIIO-ED2 Innovation Strategy to ensure it continues to reflect evolving industry conditions and the priorities of our stakeholders. Since launching our first strategy in 2014, we have built an industry leading track record for delivering innovation.

As shown in Figure 1, our most recent strategy, published in 2021 alongside the RIIO-ED2 Business Plan, set a clear direction for our work during the 2023-2028 RIIO-ED2 period. With this refresh, we outline the changes we will make to keep our strategy fit for purpose for the remainder of RIIO-ED2, while also laying the groundwork for continued success in the years beyond.

Over the first two years of RIIO-ED2, we have undertaken 86 innovation projects across our six innovation themes (see Figure 2 overleaf), and have delivered £134 million of benefits for our customers from innovation solutions embedded in business as usual. Our innovation track record to date for RIIO-ED2 is provided in Figure 3 overleaf.

Figure 2: Our innovation themes



We are proud of the progress we have made, using innovation to help address industry challenges as we move towards Clean Power 2030 (CP2030). As we approach the mid-point of RIIO-ED2, the industry landscape and requirements of our stakeholders have evolved. To ensure our strategy remains fit for purpose, we engaged key stakeholders to understand what we should focus on for the second half of RIIO-ED2 (see Section 3).

As such, we will:

Strengthen Sector Leadership Through Collaboration: We will create more space for joint ideation, support partner-led forums, and showcase sector-wide successes.

Accelerate Deployment of High-Impact Innovation: We will streamline our review process to prioritise high-impact opportunities and increase deployment.

Improving Partner Experience and Procurement Efficiency: We will review our procurement and contracting processes to better support diverse partners.

This engagement validated our approach – continuing to innovate under six themes aligned to the Energy Networks Association (ENA) innovation strategy – whilst enabling us to refine the challenges and outcomes within those themes so they continue to reflect industry and stakeholder needs (see Section 4). It also highlighted opportunities to refine elements of our process to better collaborate with industry and deliver innovation with greater impact (see Section 5).

This refresh fulfils our commitment to stakeholders, as set out in the RIIO-ED2 Business Plan, to update the Innovation Strategy every two years. Just as importantly, it sets out clear commitments to ensure we continue to meet stakeholder needs and serves as a practical guide by providing stakeholders with a clear view of the issues we see emerging and where we will focus innovation next.

We hope this will inform and encourage partners, suppliers, and innovators to collaborate with us on innovation as we move forward.

Figure 1: Our journey

December 2021	April 2023	October 2025	December 2026	April 2028
RIIO-ED2 Innovation Strategy	RIIO-ED2 Period Starts	RIIO-ED2 Innovation Refresh	ED3 Innovation Strategy	RIIO-ED3 Period Starts

Figure 3: Our innovation track record to date for RIIO-ED2

Building on Strong Foundations

Our Innovation Strategy, published in 2021 as part of the RIIO-ED2 Business Plan, remains critical to our strategic direction. It defines what innovation means to UK Power Networks, why we innovate, and how we do it. This 2025 update summarises they key elements of our RIIO-ED2 strategy, reports on the progress we have made, and highlights where we have made course corrections to ensure it remains fit for purpose.

2

Our focus for innovation in RIIO-ED2

Innovation can have many definitions and interpretations depending on the context and the user. At UK Power Networks, we define innovation as: "Development and implementation of any approach which enables us and our stakeholders to achieve our objectives faster, more affordably, safer, or to a higher standard, and which uses unconventional methods in the context of our business now and into the future."

To innovate is to deliver value to our customers and stakeholders by testing new solutions that are inherently riskier than our existing/traditional methods, allowing us to prove if they work or not and deploying solutions that have demonstrated benefits at pace.

However, innovation does not always need to involve revolutionary change. Many improvements are achieved by smaller step-by-step improvements. As such, our innovation portfolio embraces both incremental improvements and transformational change.

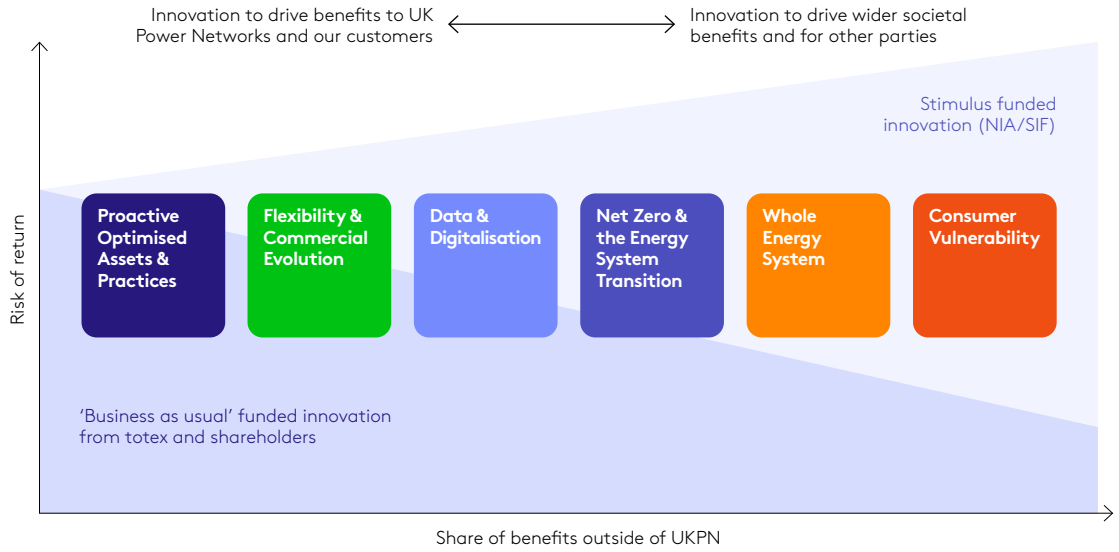
This balance enables us to deliver on our key drivers for innovation, which are to:

- Deliver value for customers
- Facilitate a net zero future
- Deliver measurable social, environmental and safety benefits
- Provide support to our most vulnerable customers
- Be recognised as a collaborative, thought leader in innovation
- Respond to business requirements aligned to our strategic objectives (safety, reliability, cost efficiency)
- Be the most innovative Distribution Network Operator (DNO) and leading Distribution System Operator (DSO) nationally
- Prepare for the uptake of electric vehicles and decarbonisation of heat
- and above all deliver value for customers whilst enabling a net zero future.

For RIIO-ED2, we developed our innovation themes to guide our focus and created a funding approach (see Figure 4). The innovation themes align with the ENA's Innovation Strategy, complemented by a sixth theme: Data and Digitalisation. They remain highly relevant today and will continue to guide our efforts through the remainder of RIIO-ED2 and as we move towards ED3.

Our funding approach is based on the view that the degree of stimulus funding required across our core innovation themes will vary, depending on the level of risk involved in the theme, and the degree to which they deliver benefits for UK Power Networks, our customers, and/or wider society.

Figure 4: Our RIIO-ED2 innovation themes and funding approach



Advancing innovation across the sector

Recognising that the requirements of our strategy may evolve over RIIOED2, we built flexibility into our approach from the outset and embedded proactive learning loops to keep our innovation programme current, effective and responsive.

This includes:

Learning from our projects: We take a systematic approach to learning from our projects. To support this, we launched the UK Power Networks' Insights Hub, an internal, centralised platform for capturing, storing, and sharing insights from engagement and research. It is now standard practice to upload project learnings to the Hub, which uses Artificial Intelligence (AI) to surface relevant information by topic, enabling better collaboration and informed decision-making.

Learning from our external stakeholders: We learn continuously from our external stakeholders through various channels. We actively engage with our innovator community via surveys, conferences, and ongoing dialogue. For example, we collaborate with the Energy Innovation Centre (EIC) through board meetings and quarterly DNO forums and work closely with the ENA to strengthen relationships across energy network companies and learn from their experience (e.g. fast follows and horizon scanning). At project closure, we capture external lessons to provide insights into technology trends, sector readiness, and market drivers.

Learning from our internal stakeholders: We gather insights through weekly customer satisfaction surveys, which provide actionable feedback on how we innovate and where we can improve, ensuring our programme continues to meet stakeholder expectations. At project closure, we capture internal lessons to improve our delivery approach.

Collectively, this work enables us to continuously refine our innovation approach and ensure our portfolio stays aligned with industry developments. On top of this, it allows us to actively support broader progress across the sector.

For example, we used our learnings to develop insights that informed the ENA's Innovation Strategy1 and the broader Innovation Atlas, both of which provide a strategic roadmap for the sector's decarbonisation goals. We also proactively engage with other organisations across the industry to strengthen their innovation practices. Drawing on our experience, we co-authored a comprehensive action plan with the EIC to improve innovators' access to network funding.

Since the start of RIIO-ED2, we have successfully hosted two Net Zero Networks conferences in central London. Our most recent event, held in May 2025, brought together over three hundred project partners and stakeholders. The event showcased key projects and featured a roundtable on barriers to deployment – with Ofgem participation – alongside opportunities for attendees to connect with our innovation team during and after the event.

These efforts are recognised by our stakeholders, who view UK Power Networks as a leader in innovation, valuing our vocal role in ideation and our openness in sharing practices that improve others' processes and bring partners along the innovation journey.

Innovation sits under the pillars of our corporate vision

Our innovation strategy is fully aligned with our corporate vision. We have set a clear ambition to be the most innovative DNO, and we have embedded this ambition as a key success indicator within our company vision. It reflects the way that we want to operate (i.e. innovation needs to be part of our DNA) and is fundamental to ensuring that:

- We are an employer of choice
- We operate as a respected and trusted corporate citizen
- We are sustainably cost efficient
- We are enabling the net zero transition for all.

Choosing innovation to be a part of our pillar to be a respected and corporate citizen means that we place a significant emphasis on innovation, using it as a driving force behind our performance to be the safest, most reliable, and cost-efficient network in the UK, leading the way in tackling the net zero challenge and consumer vulnerability. Innovation runs through everything we do, all the way from our Chief Executive Officer to our front-line staff.

1 Energy Networks Innovation Strategy 2024 | ENA Innovation Portal

At the start of RIIO-ED2, we set ambitious goals and committed to pushing the frontier of innovation. To guide our efforts and measure progress, we established the four strategic pillars shown in Table 1: Progress against our innovation targets. As described below, we have made strong progress towards each of these targets in the first two years of RIIO-ED2.

Table 1: Progress against our innovation targets

Innovation target		Progress
Deliver value to customers from proven innovation	Incorporate £137m of savings for customers within our RIIO-ED2 baseline allowances by rolling out proven innovation solutions as business as usual.	**On track**
Embed innovation deeper into our business	Ring-fence £25m Totex and £25m of our own money for innovation in RIIO-ED2.	**On track**
	Publish key business challenges quarterly whilst remaining open to innovation ideas at any time.	
Collaborate to unlock industry challenges	Actively participate in the Strategic Innovation Fund (SIF) challenges issued during RIIO-ED2 in collaboration with relevant third parties, other utilities and local stakeholders.	**On track**
Target greater societal good through Innovation	Invest £25m Network Innovation Allowance (NIA) funding, of which £20m will be allocated to third parties.	**On track**
	Target net zero and vulnerability ideas that deliver four times wider Societal Return on Investment (SROI) for every pound invested.	

Deliver value to customers from proven innovation

Incorporate £137m of savings for customers within our RIIO-ED2 baseline allowances by rolling out proven innovation solutions as business as usual.

We are confident in our ability to drive benefits through innovation, and as a result reduced our Totex request in the RIIO-ED2 business plan by £137m. These benefits were therefore guaranteed to customers.

In addition, during the first two years of RIIO-ED2, we have delivered £134 million in benefits by successfully deploying 22 innovation projects into business as usual. This includes £15 million in Totex savings, £98 million in direct customer benefit, and £21.2 million from network performance improvements. This achievement represents 64% of our five-year RIIO-ED2 target in 40% of the time.

Over the remaining two and a half years of RIIO-ED2, we are preparing to deploy a range of innovative solutions, as shown in Figure 5. As a result, we are on track to exceed our RIIO-ED2 benefits target by the end of the price control period.

Figure 5: Our RIIO-ED2 innovation rollout & impact

Solution	Description	Funding	Expected Rollout
EcoVar	Pole mounted voltage regulating and phase balancing power electronic device.	BFI	2025/26
Vyntelligence	Smart Video tool for ensuring compliant and safe streetworks.	BFI	2025/26
Chargepoint Navigator	ChargePoint Navigator is a free tool for local councils, designed to simplify site selection, reduce costs, and accelerate electric vehicle (EV) infrastructure planning.	BFI	2025/26
Our View	Live one-way video call solution enabling UK Power Networks' call agents to visually assist customers in resolving issues remotely.	NIA	2025/26
Home Energy Saver (from NIA project Greener Home)	Smart tool for vulnerable customers to create their own personalised energy saving plan.	NIA	2025/26
1Streetworks	Automated traffic management planning tool.	BFI	2025/26
CLEO	Digital platform that supports local authorities and communities in collaboratively planning, optimising and delivering low-carbon energy projects.	NIA	2025/26
Satelline	Solution that uses satellite imagery and AI to accurately measure clearances between conductors and vegetation.	NIA	2025/26
Constellation	Facilitating Net-Zero transition by creating first of their kind digital substations of the future.	NIC	2027/28

Embed innovation deeper into our business

Ring-fence £25m Totex and £25m of our own money for innovation in RIIO-ED2.

Publish key business challenges quarterly whilst remaining open to innovation ideas at any time.

To embed innovation deeper into our business, we set out to ring-fence £25 million Totex and £25 million of our own money for innovation in RIIO-ED2 and publish key business challenges quarterly whilst remaining open to innovation ideas at any time.

So far, we have invested £18.1 million in Business Funded Innovation (BFI) during RIIO-ED2 to date. The pipeline of projects is under continuous review to ensure each initiative delivers a meaningful return on investment and adds value for us and our customers by improving safety, reliability, and cost efficiency.

Although this figure is slightly behind our £20 million target for RIIO-ED2 to date (representing two years of our five-year £50m target), our BFI team is actively collaborating with internal delivery functions to shape and develop high-value ideas that will drive future impact.

We remain open to fresh innovation ideas and actively seek them out. We publish quarterly business challenges through a structured process, working closely with the EIC and the ENA to share problem statements. This approach has resulted in 235 submissions to the idea portal of which 91 have led to successfully funded projects.

Ideas are also submitted via the UK Power Networks Myldea portal, available on both our intranet and website. All submissions are reviewed at a cross-functional fortnightly Idea Review Meeting, attended by representatives from the stakeholders from across the business.

Collaborate to unlock industry challenges

Actively participate in the Strategic Innovation Fund (SIF) challenges issued during RIIO-ED2 in collaboration with relevant third parties, other utilities and local stakeholders.

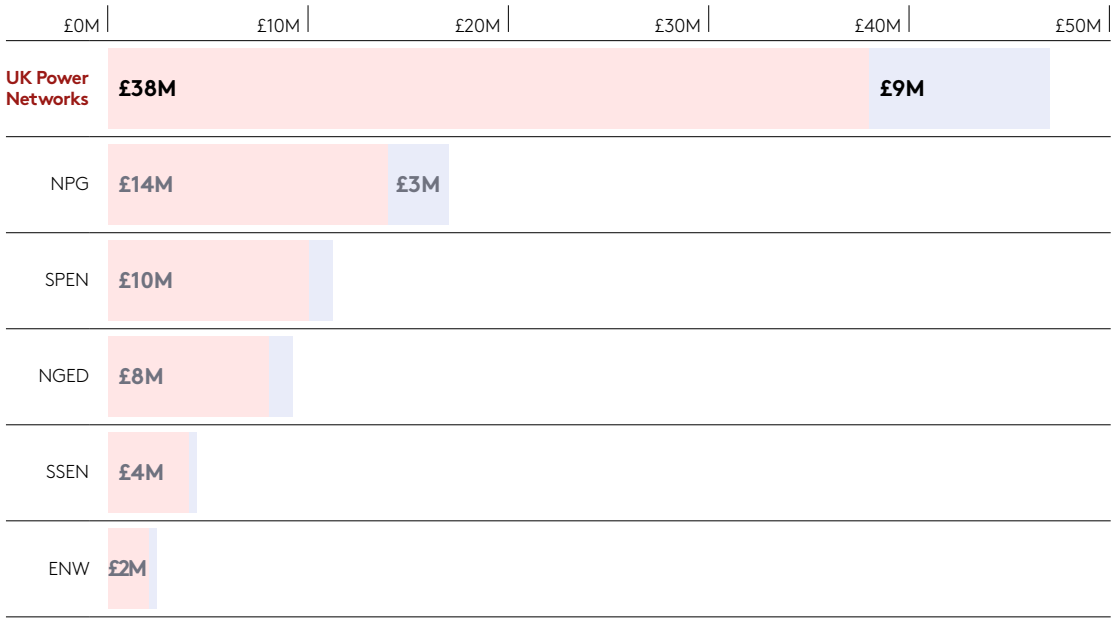
Our dedicated innovation team ensures that UK Power Networks remains highly active and responsive to the evolving SIF challenge rounds. Stakeholders consistently recognise our efforts, viewing UK Power Networks as an inclusive and visible innovation leader with a strong track record of SIF engagement and a portfolio of standout, cross-sector ideas.

Our portfolio is intentionally diverse. We leverage SIF funding across all our innovation themes, actively participating in a broad range of challenges rather than focusing on a single area. This strategic approach has enabled us to secure £38 million in SIF funding during RIIO-ED2, more than any other DNO to date (see Figure 6).

We believe that collaboration is key to successful innovation. To date, we have partnered with 87 unique partners on UK Power Networks led SIF projects. We maintain strong collaboration with the ENA, regularly engaging with other licensed network operators to exchange ideas and learn from their experiences. We continue to hold in-person discussions at conferences and events, including the annual Energy Innovation Summit.

Hosted by the ENA, this summit is a key platform for sharing insights from completed and ongoing innovation projects. It provides a valuable opportunity for energy networks to connect directly with stakeholders, understand their priorities and preferred engagement approaches, and explore new opportunities for collaborative innovation.

Figure 6: SIF funding and contributions by DNO



Target greater societal good through Innovation

Invest £25m Network Innovation Allowance (NIA) funding, of which £20m will be allocated to third parties.

Target net zero and vulnerability ideas that deliver four times wider Societal Return on Investment (SROI) for every pound invested.

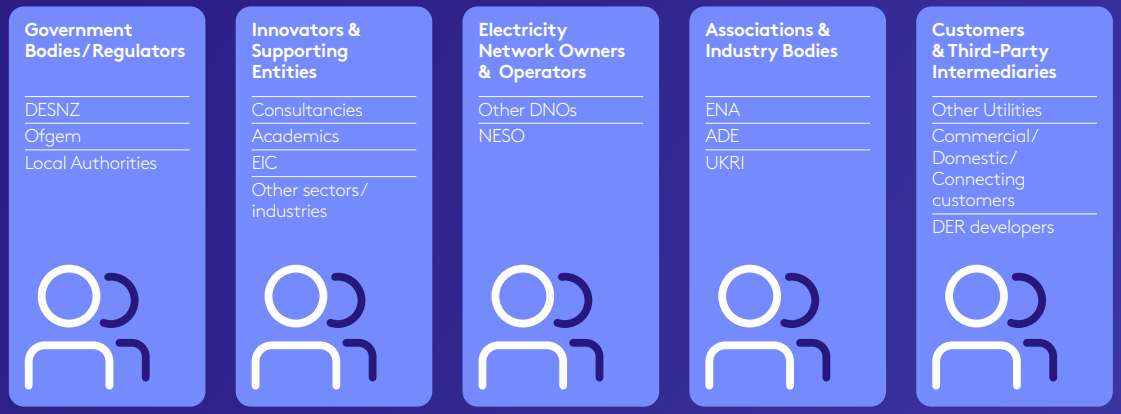
We are proud of the impact our Network Innovation Allowance (NIA) funded programme is delivering in RIIO-ED2. To date, we have invested £7 million in innovative projects, with £6.15 million (83%) allocated to third parties across projects focussed on consumer vulnerability and the transition to net zero. Our collaborators span other network companies, innovators, local councils and specialist consultancies, demonstrating our commitment to collaboration and supporting the wider innovation ecosystem. Our current portfolio is on track to achieve a SROI of 6.84 times for every pound invested by the end of ED3, maximising value for our customers and stakeholders.

Looking ahead, we are forecasting to fully utilise our NIA allowance for the price control period.

Engaging Stakeholders to shape the 2025 Innovation Strategy Refresh

As part of our ongoing innovation activities, we maintain regular engagement with the diverse group of stakeholders illustrated in Figure 7 below. Each group brings unique perspectives and expertise, offering valuable insights into different aspects of innovation, from strategic direction to practical delivery. Engaging with our stakeholders is a central part of our approach to innovation.

Figure 7: Our stakeholders



Overview of stakeholder groups engaged

To ensure a representative range of views were included in our refreshed Innovation Strategy, we engaged with key stakeholders who shape innovation (such as UKRI and the ENA); network owners and operators with whom we collaborate to enable whole system solutions (such as the National Energy System Operator (NESO) and Cadent); our innovation partners who support delivery (such as universities and consultancies); and organisations that represent our customers (such as Citizens Advice). The approach we followed to achieve this is detailed below.

Looking ahead, we will continue to collaborate with organisations of all sizes and sectors, using varied engagement mechanisms to gather meaningful feedback. This will help ensure our strategy remains fit for purpose and delivers the best outcomes for our diverse customer base throughout the remainder of RIIO-ED2.

Overview of approach taken

As part of this work, we sought input across three key areas:

Leadership: How UK Power Networks can better lead innovation across the energy sector.

Focus: How we can focus our efforts where they will have the greatest impact.

Approach: How we can deliver innovation effectively and inclusively.

To gather this input, we engaged with a broad crosssection of stakeholders. This began with internal engagement, drawing on lessons learned from previous innovation cycles and leveraging internal expertise to shape the initial framework for discussion.

We then extended our engagement externally through an online survey, which allowed us to collect quantitative and qualitative feedback from a wide range of stakeholders. To complement the survey findings, we conducted onetoone interviews with key stakeholders. These indepth conversations provided rich insights into stakeholder perspectives, enabling us to explore specific issues in detail.

Once the data was collected, we synthesised all stakeholder input (see Table 2: Highlights of our stakeholder feedback below) to identify areas for improvement, uncover new opportunities and define strategic priorities for the refreshed RIIO-ED2 Innovation Strategy. Finally, we held followup sessions with internal teams to share stakeholder insights and explore how these could be embedded into both the refreshed Innovation Strategy and the wider ED3 strategic framework.

Highlights of stakeholder feedback

The key highlights from our stakeholder feedback, and the impact this has had on our RIIO-ED2 strategy, are detailed in Table 2 below. We have embedded this feedback into our strategy and approach for the remainder of RIIO-ED2 (see Sections 4 and 5 of this document respectively). Where changes are not yet implemented, we have set out clear ambitions to ensure we continue to meet stakeholder needs.

Table 2: Highlights of our stakeholder feedback

	Key Feedback	Improvements	Status
Leadership	UK Power Networks is widely recognised as a leader[1] in innovation, known for championing new ideas, sharing practical learning, and using its experience to drive improvements across the sector. However, there is an opportunity to further strengthen this position by fostering greater collaboration across the sector.	Create spaces for stakeholders to co-develop ideas and build opportunities for cross-sector partnerships on joint projects. Strengthen support for partner-led forums and highlight not only our own successes, but those from across the wider industry.	**New for RIIO-ED2**
	Regulatory frameworks can constrain innovation, but there is an opportunity to lead boldly. UK Power Networks is well placed to influence and shape future approaches as we move towards ED3.	Proactively engage in regulatory discussions, pilot alternative evaluation methods (e.g., sandboxes), and share learning across the sector.	**In progress**
	UK Power Networks is seen as willing to take informed risks, but the regulatory environment means innovation projects are often designed to minimise personal and organisational risk. As a result, some potentially valuable projects are not pursued.	Broaden the scope of innovation by actively supporting projects that challenge sector norms. Periodically review stalled or unfunded SIF initiatives to reassess viability and consider alternative funding routes, including BFI, for promising ideas.	**In progress**
	Stakeholders need a clear understanding of UK Power Networks' organisational priorities.	Clearly and consistently communicate the key challenges under each innovation theme (see Section 4) to maintain alignment and focus.	**In progress and under review for ED3**

1 76% of stakeholders surveyed as part of this work believe we are leading the way in energy sector innovation.

	Key Feedback	Improvements	Status
Focus	All themes remain important, with overlap and crosscutting elements. Flexibility and digital/data may feel saturated but remain foundational.	Reconfirm outcomes in line with stakeholder feedback (see Section 4) and continue to focus resources where they deliver the greatest value.	**In progress**
	As efficient network build becomes a bigger priority in ED3, there is a need to emphasise hardware and practical solutions, which could be funded through SIF.	Increase hardware innovation and continue to seek SIF funding for Proactive Optimised Assets and Practices projects (see Section 4).	**In progress and under review for ED3**
	Fastfollow activity and partnering in other networks' projects are strengths that help UK Power Networks learn quickly and scale proven ideas.	Expand fastfollower initiatives, including scanning adjacent industries and geographies for transferrable solutions aligned to UK Power Network's priorities.	**In progress and under review for ED3**
	Across industry there is a clear expectation for more successful deployment of innovation projects. UK Power Networks should continue to demonstrate leadership by not only rolling out innovation internally but also sharing their approach.	This remains a priority area for us. Figure 5 highlights the benefits from rolling out our near-term projects. To improve long-term success, we have streamlined our review process to prioritise high-impact opportunities and increase deployment (see Section 5).	**In progress and under review for ED3**
Approach	Overall experience is positive. However, contracting challenges and delays in starting projects can hinder progress, especially for smaller organisations, an issue seen across the sector.	Streamline procurement, review contracting to ensure suitability for different partners and stages of innovation and continue to develop deeper strategic partnerships where appropriate.	**New to RIIO-ED2**
	Stakeholders are calling for more comprehensive and consistent measurement of tangible and intangible benefits across the sector, including environmental and social impacts.	Maintain UK Power Networks' leadership in benefits measurement by working collaboratively with others to establish greater consistency and transparency across the sector.	**In progress**
	Data access requirements and internal capacity can occasionally affect delivery timelines and partner access to information.	Strengthen early engagement with internal teams, ensure capacity for data provision is planned, and develop a clear policy for sharing customer data to support innovation partners.	**In progress**
	While stakeholders acknowledge that progress has been made, they emphasise that closer working relationships between innovation and business as usual teams would help accelerate deployment and better integrate short- and long-term goals.	Build on the success of product-centric, business-owned delivery in the "Proactive Optimised Assets and Practices" theme by rolling this out across all innovation areas, (see Section 5 for more details).	**In progress**
	Agile governance and a willingness to stop or pivot are viewed as strengths. Projects that do not succeed should still be acknowledged, with their outcomes shared.	We have revised our governance process to enable speedier fast fail decisions (see Section 5). We will also publicise what we learned from projects that do not proceed so others can learn from our insight – internally and externally	**In progress**

Our Refreshed 2025 Innovation Strategy

The innovation environment for the remainder of RIIO-ED2 remains dynamic, shaped by a complex mix of internal and external factors. Uncertainty persists across key areas, requiring a responsive and adaptive strategy. On the following page, Figure 8 illustrates the spectrum of influences currently informing our approach.

4

Figure 8: Key forces influencing our business and the future of our industry

Legal

- Procurement Act 2023 may slow down fast innovation deployment
- New UK intellectual property roadmap aims to incentivise innovation
- Legal risks around environmental compliance (e.g. habitat disruption)

Environmental

- Climate change: more extreme and volatile weather
- SF6, PCBs, asbestos, and other chemicals under scrutiny
- Net zero goals driving battery and generator reform
- Flora and fauna increasingly protected; site works face tighter rules

Social

- AI awareness rising, but public sentiment turning negative
- Infrastructure opposition persists
- Net zero affordability challenges
- Cultural polarisation around decarbonisation (e.g. ULEZ backlash)
- Low trust in energy providers; scrutiny increasing
- STEM/digital skill shortages intensified by decarbonisation goals globally

Technological

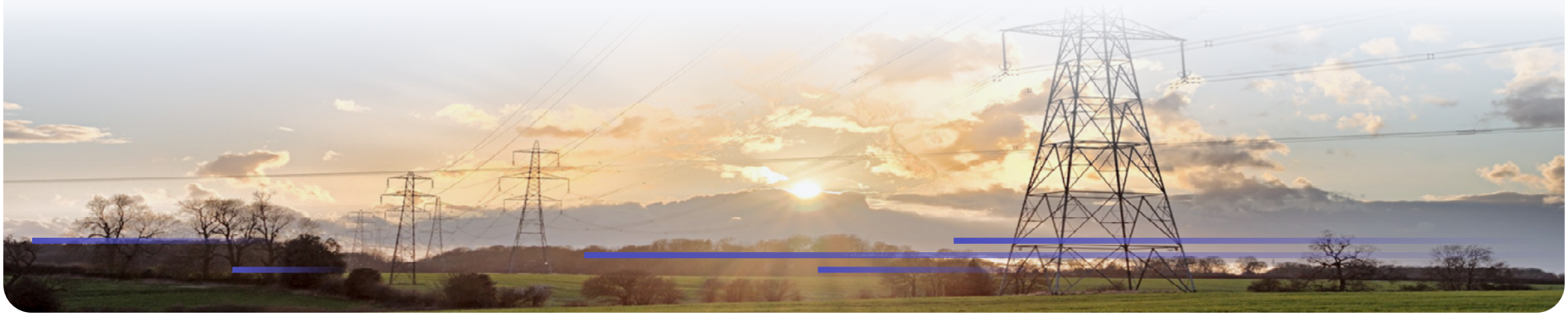
- Rapid evolution of AI and cloud platforms
- Domestic tech uptake growing (solar, heat pumps, EVs, batteries)
- Affordability still a barrier to mass adoption
- SMRs, hydrogen, CCS gaining traction for future energy needs
- Cybersecurity becoming a strategic priority

Political

- Government with strong clean energy agenda
- Clean Power 2030: major wind and solar expansion
- "Rewire Britain" transmission upgrade; distribution left unclear
- Mission Control to bridge NESO and government
- Local authorities central to Warm Homes Plan and net zero planning
- Connection queues and network constraints threaten progress

Economic and regulatory

- New RIIO-3 deployment fund supports tech rollout
- New SIF process: faster cycles, flexible windows, more reporting
- NIA mechanism retained; Ofgem under pressure to justify value of innovation
- Cost of living pressures: affordability of energy remains key
- Inflation slowing; energy price cap fluctuating
- Ofgem shifting focus towards network (strategic) investment



How our role in innovation is changing

Recent stakeholder engagement has reaffirmed the primary drivers of innovation in the energy sector. Technological change – including data and digitalisation – was cited by 86% of respondents as the most significant influence, ahead of economic and regulatory pressures (52%), political developments (43%), and environmental considerations (38%). Socio-cultural and legal factors were acknowledged but viewed as less impactful at this stage.

Key evolving influences include:
Digital transformation is accelerating across the sector. Advances in data analytics, AI, and digital platforms are enabling smarter grid management, predictive maintenance, and improved customer engagement. However, as systems become more intelligent and data-rich, cybersecurity is emerging as a strategic priority to safeguard infrastructure and ensure resilience. Domestic technologies (such as solar, heat pumps, EVs, batteries) are seeing increased uptake, with the rise of IoT and real-time data enabling them to better serve both consumer needs and the wider energy systems.

Economic pressures are intensifying. Rising energy costs, inflation, and constrained supply chains are increasing the cost of infrastructure upgrades, while demand from electrification continues to grow. At the same time, consumer expectations around affordability and service are evolving, pushing innovation in operational efficiency.

Regulation remains a key influence. The newly proposed RIIO-3 deployment fund supports tech rollout, while the streamlined SIF process – with faster cycles and flexible windows – aims to accelerate progress, despite added reporting demands. The NIA mechanism remains in place, though Ofgem faces pressure to demonstrate innovation value. Meanwhile, Ofgem's growing focus on strategic network investment signals a shift towards long-term infrastructure planning.

Political commitment to net zero and energy transition goals continues to drive innovation. Government policies, funding programmes, and strategic roadmaps are shaping the pace and direction of change. However, connection queues and network constraints threaten progress, while political stability and clarity in long-term energy strategy are essential to maintain investor confidence and enable large-scale innovation.

While these shifts present challenges, they also create opportunities for UK Power Networks to lead with confidence. Our refreshed innovation strategy for RIIO-ED2 is directly informed by this evolving landscape, with updates and refinements detailed throughout this section.

Our focus for innovation in RIIO-ED2

Our innovation themes remain consistent and aligned with the ENA framework, ensuring strategic coherence throughout RIIO-ED2. At the start of the period, we established our thematic balance through stakeholder engagement, which emphasised the importance of supporting net zero while recognising our role in allocating funding effectively. Since then, we have maintained an agile innovation pipeline that has evolved as we worked to deliver value to consumers, sustain diversity across themes, and respond to industry change (see Figure 9).

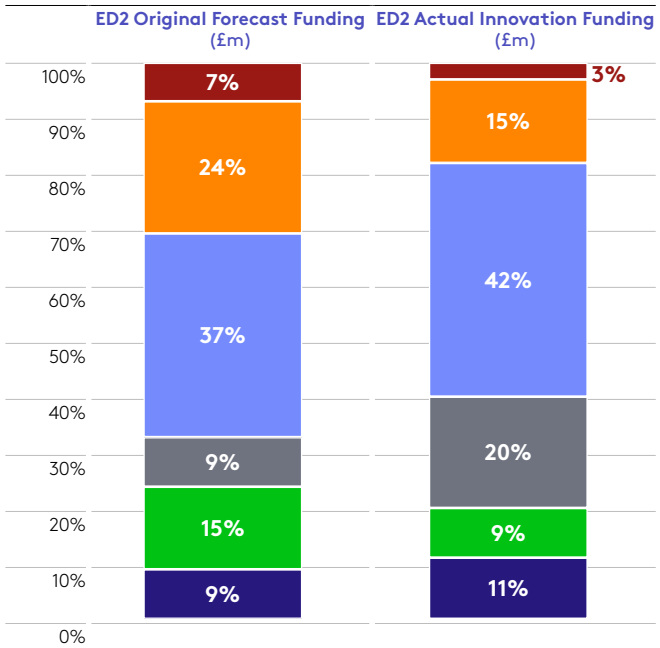
While overall alignment with our forecast remains fairly strong, we have seen increased investment in projects centred on Flexibility and Commercial Evolution, accompanied by a reduction across Optimised Assets and Practices, as well as Data and Digitalisation.

As part of this refresh, we engaged with external stakeholders to understand their views on what a successful innovation portfolio should look like and what our priorities should be as we approach the remaining years of RIIO-ED2.

Stakeholders emphasised the importance of diversity across our portfolio, recommending it include projects spanning a range of Technology Readiness Levels (TRL), themes, and time horizons, and maintain a balance between incremental and transformative initiatives.

Feedback confirmed that our priorities remain broadly aligned with theirs, with a recommendation to place slightly greater emphasis on Whole Energy System, to help address the complexity of energy system integration, and Data and Digitalisation, which is seen as a critical enabler across all our themes. Conversely, stakeholders suggested reducing focus on Net Zero and Optimised Assets and Practices.

Figure 9: Our RIIO-ED2 innovation themes and funding approach



While our innovation themes provide a valuable framework for strategic alignment, our investment decisions are ultimately driven by the tangible benefits that projects deliver, not solely by the themes they fall under. Going forward, we will continue to review our project portfolio to ensure it delivers meaningful benefits that remain aligned with both external stakeholder expectations and internal priorities for the remainder of RIIO-ED2, while positioning us strongly for ED3.

Beyond thematic alignment, stakeholders also shared their views on how we should innovate across these areas. They stressed the importance of embedding innovations into business as usual and ensuring that innovation directly meets the needs of the business. Stakeholders highlighted the value of taking calculated risks, noting that impactful projects do not always require large-scale external funding. They also expressed renewed interest in hardware-based solutions to complement digital innovation and stressed that regulation should be seen as a catalyst for change, with regulatory sandboxes offering opportunities to test new approaches within existing frameworks.

Based on this feedback, external influences, and internal learnings, we have updated the outcomes and challenges under our innovation themes to ensure they remain relevant and impactful. More information on our focus areas under each of the themes is provided below. We encourage stakeholders to stay engaged by sharing their priorities, contributing ideas, and participating in projects aligned with these outcomes.

Consumer Vulnerability

Progress to date

Over the first two years of RIIO-ED2, we have delivered 20 projects focused on customer vulnerability. These initiatives align with the four key innovation outcomes outlined in our RIIO-ED2 Innovation Strategy.

Notable examples include:
Spotlight addresses the critical issue of supporting vulnerable customers during power outages, a situation that can cause stress, financial strain and disruption to daily life. By integrating these customers into the Priority Services Register, the initiative ensures they receive crucial support (such as a 24/7 helpline, proactive outage updates, and tailored assistance) should they experience a power cut.

Our Power Protect and Right to Heat projects piloted solutions to ensure vulnerable customers have access to safe, reliable, and affordable energy, including new heating technologies and targeted support. This will drive key benefits for customers in vulnerable situations by reducing the risk of fuel poverty and supporting their energy needs.

Our Almee project is developing a digital tool using AI to provide personalised support for vulnerable consumers, helping them access grants, advice, and services more efficiently. This will drive key benefits for vulnerable customers by making support more accessible and tailored to their needs.

Our Keeping Comms Open project is trialling Smart-UPS and satellite phone solutions to ensure vulnerable customers can stay connected during power cuts, supporting safety and wellbeing. This will drive key benefits for customers in remote or high-risk areas by maintaining essential communications during outages.

What has changed in the industry?

We are currently refreshing our Consumer Vulnerability Strategy, with a renewed focus on understanding our customers' needs and experiences.

Vulnerability in the energy sector is complex and multidimensional, now recognised to include health, financial, digital, and social factors. This has led to more holistic support strategies and multi-agency partnerships. Ofgem's Consumer Vulnerability Strategy (2025) is guiding the sector to deliver better identification, smarter use of data, improved support for those struggling to pay bills, enhanced customer service, and inclusive innovation.

Economic pressures, the pandemic, and the cost-of-living crisis have intensified vulnerability, with more customers facing higher bills and health challenges. Poor housing stock and energy inefficiency are also major contributors.

As explained in our UK Power Networks' 2025 Consumer Vulnerability Strategy, one in five households in the UK is in relative poverty, and 13% of English households are in fuel poverty. Almost one child in ten is dependent on food banks. Choosing between heating and eating – or even not being able to afford to do either – is now a reality for many of the households we serve1. We must therefore innovate to identify vulnerable customers and work collaboratively with partners such as local authorities and the NHS to ensure they receive the support they need.

As the energy system moves towards electrification, there is a growing risk that vulnerable customers – particularly those unable to afford the shift away from gas or reliant on backup generators – will be left behind and face escalating energy bills. Declining gas usage could further increase costs for those still dependent. Addressing these challenges requires proactive regulatory engagement and collaboration with local authorities and housing providers to ensure those most in need benefit from the net zero transition.

This includes targeted access to innovative products, services, and technologies, such as energy efficiency upgrades and resilience measures, while helping to keep bills affordable.

The shift towards digital energy services also brings the risk of digital exclusion. The industry is prioritising digital inclusion by investing in accessible solutions and partnering with community organisations to reach those at risk, ensuring all customers benefit from a digitalised, decarbonised, and decentralised energy system.

Our forward focus

We believe the key outcomes outlined in our innovation strategy remain relevant and in line with the changes we have seen across the industry to date. This is supported by feedback from our customers and is further reinforced by Ofgem's Consumer Vulnerability Strategy (2025).

We have however made one small update to ensure continued alignment with broader opportunities:

UPDATED

"Making net zero Inclusive"

The original description emphasised facilitating participation in flexibility and DSO markets. In alignment with Ofgem's guidance, the revised description now articulates a broader objective: enabling vulnerable customers to access and adopt innovative products, services, and technologies that meet their needs and support their engagement in achieving net zero.

1 UKPN-Vulnerability-Strategy-2025.pdf

Net Zero and the Energy System Transition

Progress to date

In the first two years of RIIO-ED2, we have delivered 31 projects under this theme.

These include:
Our CLEO project developed a new geospatial platform that enables over 70% of local authorities in our region to create robust, data-driven Local Area Energy Plans. This will drive key benefits for 133 local authorities and their communities by supporting smarter investment decisions and accelerating their journey to net zero.

Our Neat Heat project trialled smart Zero Emission Boilers (ZEBs) in 30 homes, providing a new way for customers to decarbonise their heating where heat pumps are impractical. This will drive key benefits for customers, helping them reduce emissions by a total of 15,600 kg CO_2e in one year, and 100% of participants in the trial said that they would recommend the technology. We also validated the potential for new tariffs to incentivise the use of ZEBs and identified novel sources of potential value.

Our High Voltage (HV) Auto Quote project introduced a self-service digital tool for HV connections, which streamlines the application process and reduces manual effort. It delivers instant quotes for HV connections with load requirements between 300kVA and 2.5MVA and automates the quotation process, allowing customers to explore different connection options interactively. HV Auto Quote integrates with UK Power Networks' systems to perform load-flow assessments and generate connection offers, streamlining the process and reducing the time needed to receive quotes from weeks to minutes.

Our Shift 2.0 project developed and trialled new price signals for electric vehicle charging, achieving up to a 35% reduction in peak charging during trials with 1,826 Electric Vehicles (EVs). This will drive key benefits for all customers by managing network peaks and keeping costs down as EV adoption grows.

What has changed in the industry?

As an electricity network, UK Power Networks is responsible for powering not only homes and businesses, but increasingly vehicles and heating systems as customers seek to decarbonise.

Since the beginning of RIIO-ED2, we have continued to see a significant uptake of EVs and heat pumps on our network and an almost eight-fold increase in new residential battery systems since 20222 with customers interested in reducing bills and ensuring energy security and resilience. Beyond the home, our innovation efforts within transport are shifting towards addressing the network impacts of electric heavy goods vehicles (eHGVs) and marine transport. As these new technologies emerge it is essential to understand how they may affect the network, how they can be integrated quickly and efficiently, and how they can support rather than detract from system resilience.

While the sector has made progress in accelerating the connections of Low Carbon Technologies (LCTs) (e.g. through project such as HV Auto Quote), the overall cost of such technologies remains high for customers. To encourage wider adoption, market participants need to develop and communicate clear and affordable value propositions for customers. DNOs have a role to play in removing any perceived barriers to connection, keeping the cost of integration low, and developing market mechanisms to ensure customers be rewarded for the flexibility they can provide in how their devices are operated.

Connecting renewable generation remains a top priority. Connection reform has been a major focus for DNOs in RIIO-ED2, shifting from a "first come, first served" approach to "first ready, first needed, first connected" and a stage-gate approach to applications, giving DNOs more "room to manoeuvre" when progressing the connections queue. These changes are driving a need for DNOs to adapt, and innovation can help to explore new approaches.

2 In January 2022 we had 7,000 batteries installed on our network and in January 2025 we have 55,000.

Progress has been made with innovative access products – such as the successful flexible connections' products or timed connections – but more is possible. For example, the use of peer-to-peer trading to improve efficiency of network access has seen only early innovation to date (such as our Energy Exchange project in RIIO-ED1), and with growing connection queues and maturity in market participants we are seeing demand for further exploration of new ideas.

Our forward focus

To reflect recent industry developments and the needs of our stakeholders, we have made the following updates to the outcomes within this theme:

UPDATED

"Innovative commercial models to offset environmental levies"

Revised to "Develop innovative commercial models to enable LCT uptake". This broadens the focus beyond offsetting environmental levy on electricity tariffs, to creating commercial mechanisms that actively support the deployment and integration of LCTs.

UPDATED

"Minimise renewable generation curtailment"

Revised to "Maximise network access for renewable generation". This reflects the growing need not only to reduce curtailment, but also to accelerate grid connections, enabling the faster integration of renewable generation.

UPDATED

"Thermal and electrical storage in transport and heat to maximise resilience"

Revised to "Thermal and electrical storage to maximise resilience". This reflects the inclusion of a wider range of technologies, such as static batteries, beyond transport and heat.

UPDATED

"Encouraging energy efficiency to reduce overall energy demand"

Now addressed under the Flexibility and Commercial Evolution theme.

UPDATED

"Store electricity for hydrogen production"

Now addressed under Whole Energy System theme.

Maximise network access for renewable generation
Enable the integration of renewable energy through innovative products and processes, with a focus on minimising curtailment and accelerating connections.
Interplay between decarbonisation of heat and transport and their network impacts
Assessing the impact of heat and transport decarbonisation on the network.
Develop innovative commercial models to enable LCT uptake
Create and trial models that enable LCT uptake while ensuring they operate in ways that benefit both the network and customers.
The role of thermal and electical storage to maximise resilience
Explore how different LCTs, capable of storing thermal or electrical energy, can be integrated to enhance system resilience.
P2P trading
Assess the potential of peer-to-peer trading to support local balancing and connection models.

Whole Energy System

Progress to date

Over the first two years of RIIO-ED2, we have actively worked to embed whole system principles into our innovation portfolio. This ambition has been reflected in the delivery of several key projects, each aligned with the four innovation outcomes set out in our RIIO-ED2 Innovation Strategy:

Our Flex Heat Networks project has explored the impact of electrifying heat networks, providing new ways to integrate heat and electricity systems for decarbonisation. This will drive key benefits for urban customers by supporting the development of flexible, low-carbon heat networks, with findings showing that optimising load profiles could reduce peak demand by 20 to 40%. We have worked with heat network operators and industry experts to bring these insights to market.

Our Blue Light project is supporting the decarbonisation of emergency services, engaging 32 organisations (police, fire, ambulance) to develop tools and strategies for electrifying fleets and estates. This will drive key benefits for emergency service organisations by ensuring operational resilience and supporting their net zero goals.

What has changed in the industry?

Since we published our RIIO-ED2 strategy the industry has implemented changes to the way the whole energy system is planned and managed. The NESO is Britain's new, publicly owned, whole energy system body. It is accountable for planning and operating the electricity system in coordination with gas, distribution networks, and markets, while also leading Strategic Spatial Energy Planning (SSEP), and overseeing Regional Energy Strategic Plans (RESPs) with devolved and local authorities.

Through our Local Net Zero team we have been showing leadership in how to engage local authorities and align our network planning with Local Area Energy Plans (LAEPs) and the emerging RESPs. Through this activity, whole system planning for heat and transport continues to be a major focus. In the heat sector, we expect wider adoption of heat networks, supported by local zoning and ambitious decarbonisation plans. In transport, the focus is on expanding beyond EVs to include eHGVs and marine transport, presenting new opportunities for innovation.

Other emerging loads are also reshaping planning priorities. In September 2024, data centres were formally designated as Critical National Infrastructure by the government, recognising them as essential to the digital economy, national security and resilience. We are seeing rapidly increasing demand for major new datacentre connections, presenting a range of connections challenges to overcome.

The use of hydrogen as a vector for decarbonising industry and balancing the energy system is gaining maturity, with international projects continuing to demonstrate its viability. However, current thinking suggests that hydrogen is not efficient for domestic use, making collaboration with gas networks at the local level increasingly important as regulatory pressure to transition homes off gas continues to grow.

On the industrial and commercial side, new hydrogen hubs will require integrated planning and innovative connection strategies. UK Power Networks is actively exploring how to connect these hubs effectively using new products and services.
With the increasing reliance of society on electricity to meet its needs, the resilience of the system is becoming ever more critical. We therefore need to explore the interdependencies between our network and other critical infrastructure, as well as the risks and required mitigations for resilience to the effects of climate change.

Within the electricity system itself, and with the increasing deployment of distribution-connected renewable generation and storage, there is a continued focus in ensuring that system planning and operation is coordinated across transmission and distribution levels of the system. The use of flexibility services and innovative access products are helping to release system capacity and accelerate connections, but they must be used in a way that enables the best whole system outcome e.g. excessive curtailment actions at distribution level may drive up the wholesale price of energy, resulting in network cost savings but a higher cost system overall. Further work is ongoing in ensuring this is balance is managed, such as the ENA's Primacy working Group.

Smart Energy Zones and Community Energy are also emerging as a more mature area of focus. By coordinating distributed generation, storage, and flexible demand within local clusters, it can be possible to reduce energy costs for customers whilst at the same time making better use of network capacity and accelerating connections. This theme is being supported by Great British Energy's Local Power Plan, which aims to support community and municipal-scale renewable and storage projects by providing technical, financial and commercial support (grants, loans, advisory services, joint ventures) to local authorities, community energy groups and public buildings.

Our forward focus

In light of these shifts, the four innovation outcomes set out in our RIIO-ED2 Innovation Strategy remain highly relevant. This is reinforced by stakeholder feedback, which emphasised the need for multi-vector demonstrator projects that integrate energy, heat and transport. To reflect the growing importance of local engagement, we have also introduced a new outcome focused on Community Energy:

NEW OUTCOME

"Smart energy zones"

Recognising the growing importance of local energy solutions and the role communities can play in delivering net zero at a lower system cost for customers.

Whole system planning
Supporting local and national forward planning and investment optimisation across energy boundaries.
Whole electricity
Innovating to benefit customers through improved interactions across the electricity system, as demonstrated in our Power Potential project with NESO.
Whole transport
Innovating to overcome barriers to decarbonising road, rail, water and air transport, including essential services.
Whole heat
Innovating to find the most suitable whole system solutions for heat, focusing on district, industrial & commercial, on-gas grid and energy efficiency.
Smart energyzones
Devloping innovative ways to coordinating distributed generation, storage, and flexible demand within local clusters to enable whole system benefits.

Flexibility & Commercial Evolution

Progress to date

Flexibility and Commercial Evolution has become central to the way we do things, and as such nearly all of our innovation projects across our portfolio include an element of flexibility and commercial evolution. Over the first two years of RIIO-ED2, we have delivered 14 projects specifically under this theme to evolve our flexibility capabilities and promote market participation.

Our Heatropolis project has developed a new way to unlock flexibility and integration between heat and electricity networks. This will drive key benefits for heat network customers by delivering operational savings, cutting carbon, and easing the burden on consumer bills. Further, the SIF alpha trial showed that strategic investment in smart controls and thermal storage could cut peak heat network demand by up to 85%. We have helped to bring propositions to market, including digital customer connection tools and commercial models for non-firm connections, supporting the UK's ambition for 40% of heat networks to be decarbonised by 2030 and 100% by 2040.

Our Electric Thames SIF alpha project has developed a new way to plan for the decarbonisation of vessels, docks, and ports along the Thames, which will drive key benefits for marine operators and local communities by enabling scalable, sustainable electrification and exploring vessel-to-grid charging.

What has changed in the industry?

At UK Power Networks we have led the way in flexibility, and our offering and capabilities are now embedded in our day-to-day operations within the DSO business, as recognised by Ofgem's DSO performance panel and our stakeholders. Other DNOs are also making progress with their DSO offerings, as set out in the annual DSO Performance Panel submissions, with Ofgem's DSO incentive helping to drive consistency.

Most DSOs are now making use of flexibility in increasing scale, utilising standard products as defined via the ENA's Open Networks programme, with several moving to shorter-term markets enabled via third party market platforms. This is making it easier for market participants to engage, and through innovation projects the industry has helped to stimulate the development of customer propositions that integrate the use of flexibility – such as EV smart charging.

Going forward, the focus for further progress includes driving market participation through better support and enablement, maturing operational capabilities for scheduling and dispatch at scale, and ensuring the use of flexibility is coordinated with the NESO for the benefit of the wider system, and UK Power Networks is leading the way.

In practice, this involves continuing to work with market participants to explore new ways that flexibility can be delivered and value shared with customers, for instance through extension to new customer segments (e.g. eHGVs/ports), or new uses within existing customer types (e.g. energy efficiency, smart energy zones).

During RIIO-ED2, the prevailing approach among DNOs in the use of flexibility has been characterised as "flexibility first" i.e. using flexibility as a cheaper and faster alternative to network reinforcement. However, in the ED3 framework Ofgem has signalled the need for a more proactive asset delivery approach, recognising that meeting future demand will require significant network reinforcement. In this context, an emphasis on "flexibility first" could risk delaying the energy transition, with the potential economic costs outweighing any efficiency gains.

As a result, the industry's focus for flexibility is evolving to consider a broader range of needs, such as supporting the delivery of a stretching reinforcement programme, and managing the operability needs of the network. We will continue to drive innovation in the use of flexibility in RIIO-ED2, and our focus will be influenced by this evolving landscape. Further detail will be set out in our upcoming innovation strategy for ED3.

Our forward focus

We believe the innovation outcomes developed for our RIIO-ED2 Innovation Strategy remain relevant and well aligned with the evolving DSO roles, particularly in network operation and market development. We have however made a targeted update to one of the outcomes to ensure continued alignment: Updated "Innovating new flexibility product design" – revised to "Innovating new flexibility use cases". This reflects our strategic shift from developing new products to ensuring alignment with the existing standardised suite of ENA flexibility products and exploring new use cases within these definitions.

Driving forward market platform development
Building and trialling capabilities with third parties to test approaches to market development.
Innovating new flexibility use cases
Enhancing existing flexibility producs and exploring new use cases – such as energy efficiency and heat technologies – to improve network efficiency and capacity.
Testing and proving the case for real-time and net zero operations
Exploring the benefits of closer-to-real-time operations and leading the development of a dispatch framework to support net zero system operations.

Proactive Optimised Assets & Practices

Progress to date

One of the four pillars of our innovation strategy for RIIO-ED2, as set out in Section 2, is to "embed innovation deeper into our business". To support this, we have worked to improve collaboration between our innovation team and wider business units to ensure activities are focused on key organisational priorities, and that the benefits of innovation can be delivered successfully into business as usual rapidly based on strong business ownership of projects. We have made good progress, as set out further in Section 5, and as a result innovation now operates more as a service provider, responding directly to business and customer-identified challenges.

To date, we have delivered 41 projects focusing on this theme. These include: The Our View project has developed a new video-sharing platform for customer service, enabling faster and more accurate fault diagnosis. This will drive key benefits for customers by reducing unnecessary engineer visits and speeding up power restoration, with over 100 customers per month using the new video capabilities during the trial.

Our Fluid Cable Care Phase 3 project is developing new monitoring tools to improve asset management and reduce cable faults, supporting network reliability for all customers. This will drive key benefits for customers by reducing the risk of outages and improving the resilience of our network.

Our CommsConnect project is working with mobile network operators to improve the resilience of communications infrastructure, supporting operational staff and customers during outages. This will drive key benefits for both field teams and customers by ensuring reliable communications during critical events.

What has changed in the industry?

The need for delivering safe, secure, electricity to customers at an efficient cost is a constant for DNOs, and our innovation under this theme remains focused on these goals, as we work to identify new innovative technologies and working practices that we can integrate into our network and operations.

The ongoing energy transition continues to drive evolving customer expectations and new technical challenges, particularly in the integration of new LCTs. For example, we have seen increasing incidences of voltage issues on the LV network with the uptake of EV chargers, which are sensitive to network fluctuations and can experience performance issues.

This was a known risk at the start of RIIO-ED2, but the rapid emergence of challenges through clustering of EV charger uptake now warrants a higher priority focus.

More broadly, the uptake of LCTs is accompanied by rising customer expectations for reliability and service, as well as an increasing criticality of supply as recognised by industry bodies. This evolving landscape is driving greater activity across the energy sector, which in turn is having broader impacts on supply chains and driving rising operational costs, necessitating a renewed focus on techniques to improve asset utilisation, asset life extension, and overall asset efficiency. To meet demands, we must invest focus on data-driven approaches to ensure reliability, such as remote monitoring, predictive maintenance, and investment in advanced analytics to proactively manage asset health and prevent faults. However, a significant challenge lies in the age of existing infrastructure, much of which is not equipped to support the rapid deployment of AI and modern technologies.

With a growing recognition that the drive for net zero will require significant investment in network infrastructure, it is increasingly important for DNOs to be exploring and leveraging all available advances in technology to support a rapid expansion of the network whilst maintaining safety, security, and affordability.

Our forward focus

We believe our RIIO-ED2 focus areas of our innovation strategy under this theme remain relevant, and as such are not changing our focus at this time. The four key topics are:

While BFI was initially expected to be the primary funding source for Proactive Optimised Assets and Practices (As shown in Figure 4), we've increasingly leveraged SIF and NIA funding, especially for lower TRL or higher-risk projects. This reflects industry trends and stakeholder input. Going forward, we will continue to use the full spectrum of funding mechanisms to deliver our innovation goals effectively.

Reliability / Resilience
Our 'licence to operate' keep lights on at lowest cost, reduce number and duration of interruptions.
Use embedded generation to increase resilience.
Inspection and maintenance
Improve processes to target those assets likely to become the highest risk as their age profile increases.
Asset life extension / understanding failure
Maintain the networks' asset health risk broadly constant.
Increase capacity / maximise utilisation
Alternative options to get the most out of our existing asset base.

Data and Digitalisation

Progress to date

Our Data & Digitalisation capabilities underpin all our innovation themes and business as usual operations. As such, it is listed as a secondary theme on 18 of our innovation projects across other themes. For instance, our HV Auto Quote and CLEO projects (see above) have developed new ways to deliver services for customers and stakeholders via digital platforms.

We also continue to innovate under this theme directly, and in the first two years of RIIO-ED2 have delivered seven specific projects under this theme.

These include:
Our CReDo+ project is developing the Climate Resilience Decision Optimiser digital twin and data sharing platform. This platform is used to understand infrastructure interdependencies across the electricity, gas, water, and telecommunications sectors, and identify cascading risks from extreme weather including flooding, extreme heat, and strong winds. This is enabling enhanced resilience investment planning and reporting across sectors, and ultimately will support enhanced security of supply to key dependent sectors

Our Open Maps project tackles a key barrier to data sharing. There is currently no method for organisations to easily know where to target their work based on feedback from third sector organisations and public bodies. Creating a map of current actual need, which also shows where delivery has happened and is planned will be game changing for both customers and funding organisations as it will ensure work is carried out where there is absolute tangible need rather than modelled demand. It will also allow on the ground resource to sign post their service users to the most effective method of support.

Open Maps enables GDPR compliant data sharing – vital to unlocking important insights that can change the lives of vulnerable customers and help organisations to make better business decisions.

What has changed in the Industry?

UK Power Networks has set out a clear Digitalisation Strategy and Action Plan, in which we identify a range of influencing factors that we believe are shaping the imperative for DNOs to act on. With more data than ever before, effective data management and quality are now critical. AI is emerging as a key enabler, supporting improved data quality, and allowing faster analysis of complex data, better forecasting and smarter, more responsive services for customers and stakeholders. Efficient use of AI will be central to maintaining resilience while improving visibility and decision-making across the network.

Digitalisation is also critical to delivering on the DSO transition, whole system coordination, and the UK's net zero targets. Maximising utilisation of network assets and integrating low-carbon technologies depends on advanced data-enabled monitoring, optimisation and control. Interoperable, secure data flows are essential to connect the many actors in an increasingly complex energy ecosystem.

At the same time, the principle of "presumed open" is driving a culture of open innovation, where data is published, standardised and shared to enable new solutions and improve interoperability. Collaboration across the sector is essential to develop consistent governance and practices.

Customer expectations are rising in line with broader digital experiences in banking, retail and other sectors. Customers now expect intuitive, online and connected services, requiring DNOs to accelerate digital delivery and engage more effectively to understand needs and tailor services. The wider industry is also demanding more digital maturity from DNOs. Local authorities need access to granular data to support LAEPs, developers expect faster and more transparent connection processes, and aggregators and flexibility providers require reliable APIs and platforms to integrate distributed energy resources.

Finally, digitalisation must also respond to the imperative of cost reduction. Customers want services that are cheaper, faster and greener, but will not accept digitalisation at any price. Innovation programmes must therefore be carefully balanced, ensuring investments are justified by benefits and deliver tangible outcomes at lowest cost to the customer.

Our forward focus

As set out in our original RIIO-ED2 Innovation Strategy our approach to Data & Digitalisation is aligned with our Digitalisation Strategy Action Plan3, which seeks to deliver enhanced services across the following focus areas:

Customers facing solutions
Services and solutions that deliver choice, convenience and satisfaction for our customers across all interactions.
Employee solutions
Tools and technologies which allow employees to work safely, efficiently and effectively, allowing them to focus on delivering for our customers.
Assets and operations
Advanced capabilities for optimal network investment and operation interventions to maximise network safety, resilience and performance.
Smart networks (DSO)
Enabling our legally separated DSO through the delivery of the advanced technology capabilities to run a 'smarter' electricity network.

Delivering on this strategy is based on robust foundations put in place by our technology teams including our IT environment, application architecture, data, and the digital capabilities of our people and culture. We will therefore also explore how innovation can support development of new foundational capabilities that enhance our underlying digital capabilities – for instance in data management, advanced analytics, and cybersecurity.

How we will continue to innovate to meet our customers' needs

UK Power Networks has strengthened its governance by revising idea review processes, introducing quarterly portfolio reviews from 2026, and streamlining approval stages to balance bold innovation with successful deployments. Alongside this, innovation now operates as a service provider closely aligned with business and customer needs, while external collaboration is being expanded for greater inclusive engagement with diverse partners.

Key process changes

Stakeholders reported a positive experience working with UK Power Networks, particularly commending the strong governance processes that enhanced project pace and outcomes, as well as the clear reporting that provided transparency on both what was being done and why.

A recurring theme in the feedback was the need to balance bold innovation – accepting that some projects will fail – with a stronger emphasis on delivering successful deployments. We have recognised this and strengthened our governance in two key areas:

Idea review stage: We have revised our process to better prioritise high-impact opportunities and improve decision-making efficiency. This reinforces the importance of aligning innovation projects with core business and consumer needs, which is critical for a smooth transition into business-as-usual operations and for improving long-term success.

Delivery stage: From 2026, we will introduce quarterly reviews of the entire innovation portfolio to provide senior management with project-level insights. These reviews will enable "fail fast" decisions, confirm that benefits remain valid and impactful, and create an escalation point for addressing deployment challenges.

In addition, in response to clear business needs, we have streamlined BFI innovation governance by simplifying the Concept Approval (Gate A) stage to speed up the time it takes from a project idea to funding.

Looking ahead, we remain committed to refining our innovation processes and will review how best to implement the changes highlighted by stakeholders over the coming years.

Business Funded Innovation (BFI) collaboration

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. At the same time, our Customer Service teams play a crucial role as the voice of the customer, helping to shape solutions that meet the needs not only of our organisation, but of the people we serve.

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.

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.

Future external collaboration

Stakeholders praised the collaborative nature of UK Power Networks' engagement, with 71% of respondents rating UK Power Networks as strong or very strong in collaborating with external partners. Many noted our ability to bring together established organisations and new entrants, creating a valuable mix of capabilities across our innovation portfolio.

We value the diversity of perspectives and capabilities that our stakeholders bring. Although we are doing well, we recognise there is room to improve, and we are committed to ensuring our collaboration approach works for everyone.

For instance:

Small innovators inject creativity and agility, often bringing disruptive ideas and new approaches. However, they need simpler, more accessible processes and clearer routes to participate, as well as faster project turnaround and reduced administrative barriers.

Academic partners contribute deep technical expertise and the ability to tackle complex, cross-disciplinary challenges. They are looking for more streamlined collaboration pathways, less complex contracting, and opportunities to form strategic partnerships that leverage their research strengths.

Large corporations offer scale, established infrastructure, and deployment experience. They can help accelerate the transition from pilot to business as usual, but would benefit from earlier engagement and more strategic, long-term partnerships that make full use of their capabilities.

Cross-sector partners, such as those from gas networks and other utilities, bring a whole system perspective and experience in multi-vector integration. They seek more integrated, joint approaches to innovation and want to see genuine collaboration across sectors, rather than competition.

Across all stakeholder groups, there was a clear call for UK Power Networks to clearly and consistently communicate the key challenges within each innovation theme and the specific outcomes we are targeting. This strategy helps to providing clarity on our revised priorities, enabling stakeholders to approach us with relevant solutions. Looking ahead, we will continue to explore how we can issue targeted calls for innovation through channels such as LinkedIn, workshops, and webinars. Stakeholders highlighted our previous "call to industry," where we invited ideas to help address voltage challenges on our network, as an effective way of doing this while stimulating industry-wide discussion and innovation.

Beyond setting challenges, stakeholders want UK Power Networks to actively seek out and adopt solutions from across different industries, integrating these into both our innovation portfolio and business as usual operations where appropriate. They stressed that maintaining open, two-way communication is essential to keeping UK Power Networks informed about industry developments so that we can identify where innovation can add value and where solutions already exist.

Stakeholders also encouraged UK Power Networks to remain visible and engaged across the sector by championing and attending stakeholder-led events and facilitating connections between partners. They suggested hosting sessions that bring stakeholders together to co-create solutions rather than simply showcase projects. Northumbrian Water's Innovation Festival was highlighted as a strong example of this.

When asked about preferred engagement channels, stakeholders identified in-person, multi-project educational events as the most valuable, followed by national conferences, commercial engagement events, and calls for innovation. We are taking this feedback forward and will continue to evolve our engagement strategy.

Stakeholders can also get involved by submitting ideas via the UK Power Networks Innovation Portal or by contacting us directly at: innovation@ukpowernetworks.co.uk

UK Power Networks
Delivering your electricity

UK Power Networks, Newington House, 237 Southwark Bridge Road, London SE1 6NP
Registered office: Metropolitan House, Darkes Lane, Potters Bar, Hertfordshire, EN6 1AG
Registered number: 7290590 registered in England and Wales

ukpowernetworks.co.uk