Consultation

ED3 Sector Specific Methodology Consultation

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We are consulting on the methodology we will apply for the electricity distribution sector in the ED3 price control which will run from 1 April 2028 to 31 March 2033. We would like views from stakeholders with an interest in the regulation of energy networks. We would particularly welcome responses from groups representing consumers of electricity. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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Foreword

The next price control review for electricity distribution networks - called ED3 - covers a period of transformation. We expect electricity demand to grow significantly during the 2030s, with increasing use of technologies such as electric vehicles, heat pumps and artificial intelligence. Meanwhile, we expect electricity supply to become cleaner, with greater penetration of distributed generation such as solar panels. This will reduce carbon emissions and improve energy security. Greater domestic production of energy will mean consumers are less exposed to the volatility of international gas prices.

This transformation in demand and generation must be enabled by investment in the local electricity distribution networks.

In this methodology consultation, we set out proposals for how we intend to regulate the cost and quality of service from the Distribution Network Operators (DNOs) in the ED3 price control period, supported by a stable and predictable financial framework that can efficiently inject the scale of investment required while strengthening financial resilience across the sector.

Our overall objective is to achieve network services for consumers that are smarter, more secure, and more resilient to the increasing demands being placed upon them. The approach taken must continue to work in the best interests of consumers, paving the way for a cleaner and lower cost energy system that supports the wider electrification of the economy.

This will not happen through a short-term incremental approach. For ED3, the DNOs need to frame their five-year investment plans in the context of rising electricity demand across future decades.

We are starting from a good position. Through successive price controls since RIIO-ED1, our framework of incentives, innovation and outputs has produced network services with world class levels of reliability and customer service.

But in ED3, we need the DNOs to do more. The quality of service is still too variable across customer groups. All types of customers must receive a high level of service, whether they are connecting their electric car, or heat pump, or a rooftop solar panel or a new housing scheme or a new factory or data centre. No one should experience long delays in getting access to the grid. Reliable and rapid access to the grid is a crucial condition for powering economic growth.

Doing more also means the DNOs taking action to reduce wastage and improve the efficiency with which we use energy. We want to minimise the amount of electricity that is lost wastefully from the distribution system, whether from the network equipment or

from customers' properties. Every kWh saved is a kWh that does not have to be generated, helping to reduce costs for consumers.

In developing and operating their networks, DNOs must act responsibly and do more to minimise the impacts they have on the environment, including from the use of Sulfur Hexafluoride (SF_6) and leakages of oil from cables.

And we expect DNOs to do more on securing the longer-term resilience of the networks, including in response to climate shocks such as storms, so that customers are reconnected as fast as possible and looked after well while they wait for power to be restored in the wake of storm damage. More broadly, we want DNOs to do more to minimise the impact that power cuts - even very short ones - have on customers. While our distribution networks are highly reliable, even a short interruption of a few seconds can be hugely disruptive for some customers. For other customers the consequence of a lengthy disruption can bring with it health and well-being concerns. To meet our expectations for equivalent levels of service, DNOs will need to more fully consider the effect an interruption has in the type and level of service they provide.

This intent to encourage the networks to do more has informed our methodology consultation. Some of these areas will require new and innovative approaches to setting a price control. We don't yet have all the answers. What we are doing through this consultation is setting out what we want to achieve and engaging with consumer groups and industry on how best to do so.

If we can harness the full potential of the local electricity grids that service our homes and communities, the benefits to energy consumers as well as the wider economy could be huge. This task is now urgent. There is not a moment to lose.

Akshay Kaul

Director General for Infrastructure

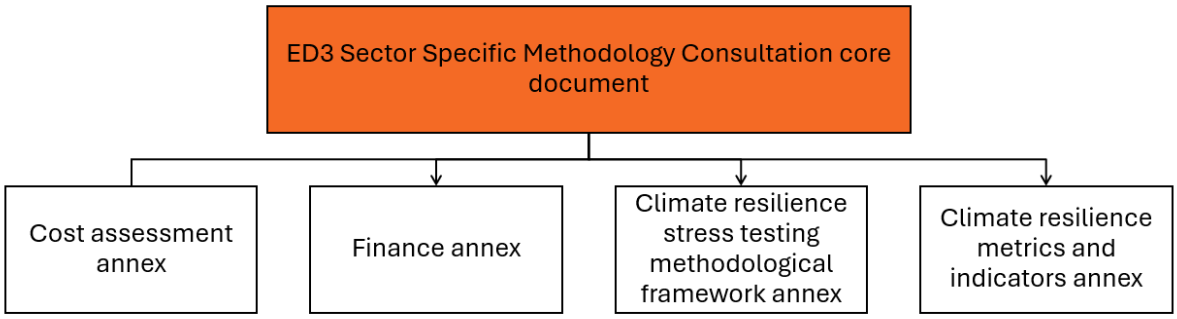
1. ED3 methodology consultation at a glance

1.1 The next price control, which is the regulation of DNOs in Great Britain (GB), will be a key period for setting up and delivering for the energy transition.

1.2 In April 2025 we published our ED3 Framework Decision, which confirmed the direction of travel for the period.[1] As set out in our Framework Decision, our objective is that ED3 will enable the energy transition at distribution in the most efficient way, delivering benefits for consumers over the long-term; supporting decarbonisation, promoting sustainable economic growth, driving improvements in customer service and maintaining high levels of resilience.

1.3 This Sector Specific Methodology Consultation (SSMC) sets out our proposals and direction of travel for the methodology we will apply to ED3 to best achieve this objective. Detail on our proposals are provided in this core document and subsidiary documents, as shown in Figure 1.

Figure 1: SSMC document suite



1.4 We have structured the SSMC core document so that its various elements contribute to the delivery of the four consumer outcomes we set out in our Framework Decision. In the core document we also set out our proposals for supporting efficiency and delivery of business plans.

Investing for the energy transition

1.5 As GB accelerates towards decarbonisation, the electricity distribution system must be ready to accommodate rapid electrification, widespread uptake of low carbon technologies (LCTs), and increasing volumes of distributed generation. As a result, we want to see a more proactive and strategically planned approach to long-term network investment, and for DNOs to be more strongly held to account for the delivery of their plans.

[1] Framework Decision

1.6 A key enabler of supporting the shift to a more strategically planned approach is the transitional Regional Energy Strategic Plans (tRESP), being developed by the National Energy System Operator (NESO) as an input to the DNOs' network planning processes for ED3. Using the tRESP as the foundation for supporting our new approach, we are consulting on the constituent elements of the DNOs' long-term integrated network development plans, setting out the objectives, planning inputs, and guidelines for proactive investment. We want to ensure that through these plans DNOs are integrating a range of investment drivers across load, asset health, climate resilience and environmental goals, to deliver long-term system needs spanning the next 25 years.

1.7 To ensure DNOs proceed to deliver these plans we are also consulting on the mechanisms by which we can monitor delivery and adjust allowances. We are proposing a greater use of Price Control Deliverables (PCDs) and capacity metrics with subsequent adjustments to totex so that companies only share in the benefits of underspending when they have delivered planned investment.

1.8 We recognise that inevitably there will be changing and emerging needs within the price control period and therefore we are consulting on how we can enable DNOs to respond to new information once the price control period has started. This includes options for adapting within the ED3 baseline, where actual investment needs differs from expected, and options for funding brand new investment that is needed in period over and above original plans.

1.9 Finally, one of the main reasons why we want DNOs to reinforce their networks in anticipation of future demand is to speed up and simplify the process for customers wanting to install technologies, such as an electric vehicle charging points at their property. We are therefore consulting on the requirement for DNOs to adopt a programmatic approach to activities such as unlooping properties,[2] so that their low voltage networks are ready to accommodate increasing demand and do not delay the installation of new technologies.

Responsible and sustainable business

1.10 Ensuring customers can connect to the network where they want and at a time that they want is key to supporting a more decentralised and cleaner energy system whilst also delivering wider economic growth. There are already significant changes underway in speeding up the connections process for those larger projects that are ready and needed, but we recognise more can also be

[2] A 'looped' electricity supply is where two (or more) properties share a single electricity cable from the main network. 'Unlooping' replaces the looped service with a direct supply to the main network for each property.

done by DNOs to support faster connections and better service for customers. This is particularly notable at the lower voltage level where customers want to connect LCTs in their homes.

1.11 There are many different types of users who will need to be connected in a timely manner, and this will become increasingly important as the transition progresses. For ED3 we are proposing updates to the current classifications of 'minor' and 'major' connections into categories that better reflect the experience of different customers. This also includes proposals for introducing a specific focus on LCT connecting customers (and the associated reactive upgrade work required to facilitate them) into the minor connections incentive and on strengthening the incentives for large connections.

1.12 The experience of customers remains as important as ever, particularly in ensuring those who are more vulnerable receive additional and tailored support. As a result, we are consulting on changes to the Broad Measure of Customer Service (BMCS) to continue to incentivise DNOs to deliver quality customer service to all customers as well as additional incentives focused on the experience of the customers who are most vulnerable (and are identified through the Priority Services Register). We are also reviewing the Consumer Vulnerability Incentive, which identifies and provides additional services to vulnerable customers, to make sure it continues to drive the best outcomes.

1.13 As the home energy transition gathers pace, and more people switch to EVs, electrify home heating, install electricity generation and storage technologies, and adopt flexibility services there is a need to consider how this can be delivered effectively. Vulnerable customers, and those on lower incomes may also need to be supported to ensure that they can access the benefits of these new technologies. DNOs can play a substantial role in ensuring effective delivery of in-home technologies and could do so in an integrated way with their programme of network upgrades, to maximise the benefits of a coordinated, area-based approach, partnering with trusted parties. We will be separately consulting on how DNOs can play their full role in the household energy transition as part of a coordinated approach to network upgrades and management.

1.14 Ensuring DNOs act in an environmentally responsible and sustainable way is key to reducing the impacts the distribution network and related business activities can have on the environment. We are consulting on strengthening the RIIO-ED2 environmental framework, with a particular focus on reducing emissions from the network, such as SF_6 and oil from fluid-filled cables, and standardising

metrics to support performance monitoring and improve comparability across DNOs.

1.15 Ensuring consumers' needs, priorities and views are at the heart of how DNOs develop and operate their networks is fundamental to the effectiveness of ED3. As a result we have continued to build on our Framework Decision and in this document are consulting on: guidance to DNOs on conducting consumer research to support development of their business plans; guidance on the Independent Stakeholder Groups, that will be set up to support DNOs in both the development and delivery of their business plans; and some guiding principles to support the development of an enduring Consumer Value Framework, which will be used by DNOs to provide a consistent and transparent approach to communicating the value to consumers created in business plans and on an enduring basis.

Smarter networks

1.16 Enabling the transition to a more decentralised and cleaner electricity system requires it to be digitally enabled, flexible and innovation driven.

1.17 We are consulting on strengthening the digitalisation foundations introduced in RIIO-ED2 by setting clearer expectations around outcomes, interoperability, data sharing, artificial intelligence (AI) use and asset visibility. High-quality data and digital tools are essential for an efficient, flexible and secure electricity distribution system and our proposals aim to reduce market barriers and ensure digitalisation activity delivers whole-system and consumer outcomes across the price control period.

1.18 Innovation remains an essential part of how we expect DNOs to operate, supporting the reduction of costs and improving service. We propose to align our ED3 innovation approach with the proposals being taken in the RIIO-3 price control for other sectors (noting the positions set out in the RIIO-3 Draft Determinations are still subject to change ahead of Final Determinations).

1.19 For the Distribution System Operator (DSO) we see a change in the core responsibilities, but want to continue to ensure DNOs build capability and deliver outcomes aligned with whole system value. We are consulting on the DSO's role in network planning, flexibility, voltage management and losses, as well as the DSO incentive. The expanded scope reflects the need for DSOs to act not only as network operators, but as system planners and enablers, ensuring that local networks are ready to support the energy transition and deliver value for consumers and the wider system.

1.20 In relation to the DSO's role in using flexibility, we particularly want network companies to build - to ensure the network can accommodate the increase in distributed energy resources and enable them to be utilised by the wider system. But we also want them to flex - to support network resilience, speed up connections and enable the DNOs to manage their network effectively, both in terms of everyday operation and in supporting the network build out. We have therefore set out several important use cases for flexibility in ED3, demonstrating the value that DSO flexibility will continue to provide.

Resilient networks

1.21 Britain’s electricity networks are among the most resilient and reliable in the world, but the future will demand more. As every new heat pump, electric vehicle and data-driven service deepens our dependence on uninterrupted power, the hazards confronting the system will grow sharper and more complex. Climate extremes are intensifying, cyber threats are multiplying, and global supply chains for critical components are stretched. This convergence of rising exposure and intensifying risk demands electricity networks that can absorb bigger shocks, adapt to change and energise our transition to a secure, low-carbon economy.

1.22 The Network Asset Risk Metric (NARM) has been a cornerstone of asset health regulation, providing a robust, evidence-based framework that has driven consistent delivery of safe and reliable networks. We propose to preserve the integrity of the existing NARM framework while introducing complementary mechanisms for assets currently outside its scope. Our approach ring-fences the core NARM methodology, maintaining its credibility, and develops alternative frameworks for non-NARM assets, applying Common Network Asset Indices Methodology (CNAIM) principles where feasible. To strengthen accountability, we will enhance data assurance through independent audits targeting high-impact areas and explore subsidiary targets to align delivery with business plans. We will also require DNOs to build capability to model climate-driven chronic deterioration within CNAIM, ensuring readiness for future integration. This package balances flexibility with accountability, ensuring robust asset health management while adapting to emerging risks.

1.23 Addressing climate resilience in the electricity distribution network is of critical importance, particularly as we start to experience warmer, wetter winters, hotter, drier summers and more frequent and intense storms. Building on our Framework Decision we are setting out further detail on how we are taking forward five areas in ED3. Through stress testing (for which the methodological

framework is set out in an Annex) we will set a direction for a long-term climate resilience goal, and expect to fund the necessary activities within ED3 to meet this. We are consulting on how DNOs can better incorporate climate resilience into their 5-year plans and beyond, by linking climate resilience strategies to the investment requested in their business plan, ensuring accountability for the delivery of plans and ability to hold DNOs to account for delivering them. We also set out the proposals to introduce Climate Resilience Metrics and Indicators (in a separate Annex) and appropriate uncertainty mechanisms for use in ED3 to support in period changes.

1.24 The Interruption Incentive Scheme (IIS) has been instrumental in driving significant improvements in reliability since its introduction, with Customer Interruptions (CI) and Customer Minutes Lost (CML) more than halved over two decades. However, some customers at the extreme ends of our performance measures continue to experience frequent and/or prolonged interruptions. We are considering whether these customers require more targeted focus and through this consultation we are exploring options for introducing new incentives — either within the existing incentive framework, or as complementary mechanisms — that specifically address short-term interruptions (<3 minutes), multiple interruptions and long-duration interruptions lasting more than 12 hours. We also propose to continue with the use of the Use It Or Lose It (UIOLI) mechanism for Worst Served Customers (WSC) with enhanced transparency and accountability, and we seek views on updating the Value of Lost Load (VoLL) to reflect electrification-driven dependency on supply. These proposals aim to deliver fairer outcomes and incentivise resilience where it matters most.

1.25 We propose to introduce a single, consolidated resilience re-opener for ED3, replacing multiple existing mechanisms to reduce complexity and close coverage gaps. This re-opener would enable funding adjustments for new resilience requirements arising from government policy, updated standards, or emerging systemic risks, including outputs from climate stress testing. It would also cover physical security, emergency protocols, and engineering standards, provided these activities are underpinned by government direction. We seek stakeholder views on whether this consolidated approach provides a proportionate and future-proof route for addressing uncertainty.

1.26 Cyber resilience has matured significantly under RIIO-ED2, supported by the Network and Information Systems Regulations (NIS-R) and the Cyber Assessment Framework (CAF), but the next phase must reduce regulatory burden while maintaining robust protection. For ED3, our proposals build on this

progress and align with the RIIO-3 approach: a single holistic Cyber Resilience Business Plan per DNO with upfront allowances to deliver compliance efficiently. Funding would be structured through evaluative PCDs aligned to the 16 CAF principles—reducing the number of PCDs to a maximum of 16 per DNO—and capped UIOLI allowances for uncertain projects. We are also considering removing the fixed mid-period re-opener, retaining only an Authority-triggered option for significant external changes. This approach aims to give companies flexibility to manage delivery while ensuring compliance with NIS-R and maintaining strong oversight. We welcome views on whether this strikes the right balance between assurance, efficiency, and adaptability.

1.27 Delivering ED3's step change in investment will depend on credible long-term planning. To address this, we are considering requiring each DNO to publish a ten-year Delivery Strategy covering ED3 and ED4, setting out how they will manage phasing, procurement, workforce development, and delivery risk. These strategies would include transparent data on equipment and labour volumes, enabling suppliers and educators to scale capacity in step with demand. We intend to link strategy quality to financial incentives under the BPI and monitor progress annually. Mobilisation funding windows in RIIO-ED2 could support early works, while engagement with government and industry would strengthen UK supply chains and skills pipelines. We welcome views on whether these measures provide sufficient certainty to avoid bottlenecks and ensure what consumers fund will be built, safely, efficiently, and on time.

Business plan, delivery and efficiency incentives

1.28 Driving DNOs to set out, and then deliver, ambitious and efficient business plans is critical for ensuring value for money for consumers. We are consulting on the ways in which we think we can best ensure both the submission of complete and efficiently costed plans, and also the subsequent, efficient delivery of these plans. Our proposals are based around the requirement for Delivery Strategies, and the use of the Business Plan Incentive (BPI) and Totex Incentive Mechanism (TIM).

1.29 We are consulting on an amended BPI for ED3, including a proposal to link rewards to the delivery of business plan commitments. To support efficient delivery, we are consulting on retaining the TIM, but for this to be increasingly conditional on delivery. We are proposing that PCDs should be used across the majority of the network investment activity, with adjustments to allowances (based on what has been delivered), prior to the TIM being applied.

Cost assessment

1.30 Our cost assessment framework protects customers by benchmarking DNOs against each other to establish the efficient level of costs to deliver their activities. This ensures customers do not pay more than they need to.

1.31 We consider that our RIIO-ED2 cost assessment framework is robust and delivers the right outcomes for customers for a steady state electricity distribution sector. However, the forthcoming 25-year growth phase brings about a need to carefully consider our toolkit approach to maintain the benefits of benchmarking while funding a significant step-up in the scope of DNO activities. We are cognisant a simple roll-over of the RIIO-ED2 cost assessment framework may not be sufficient to meet this challenge. Therefore, we are actively considering how to approach the ED3 cost assessment framework, examining every aspect of our toolkit in detail. The ED3 SSMC Cost assessment annex sets out our proposals for consultation.

Regulatory Finance

1.32 Our aim is to set a financial framework, and associated policies and methodologies, for price controls that are broadly stable and predictable over time. This stability gives investors the confidence to continue to invest in the sector.

1.33 DNOs will play a critical role as the demand for, and generation of, electricity grows to support the energy transition. We are clear that DNOs need to build out the grid that supports timely connections, low carbon technology and flexibility, and energy efficiency. This will mean that a step-change in investment is needed for the sector to deliver on ambitious targets. While the sectoral challenges differ to those faced by the gas and electricity transmission sectors, our RIIO-3 Draft Determinations published in July 2025 have set out a financial framework that represents an attractive investment proposition. It also delivers for consumers and supports the energy transition. Our starting point in this SSMC is to propose the application of that framework and its principles to ED3 so that DNOs can benefit from the same predictability and stability that encourages investment. We can alter that framework where we see evidence or macroeconomic conditions that merit different approaches being more appropriate for ED3, but more generally we see significant benefit in proposing a similar foundational approach in this consultation.

1.34 In that vein, we are consulting on adopting similar financial parameters as those set out in our RIIO-3 Draft Determinations.

1.35 We are however consulting more broadly on financeability considerations for the electricity distribution sector, specifically the topic of regulatory depreciation. We expect ED3 and subsequent price control periods to require ambitious investment and delivery plans. These should be supported by appropriate policies that support the recovery of DNO costs, our key aims being a) to allocate costs fairly between current and future consumers (sometimes referred to as intergenerational fairness); and b) to ensure that company revenues reflect the licensee's need to make sustainable economic investments.

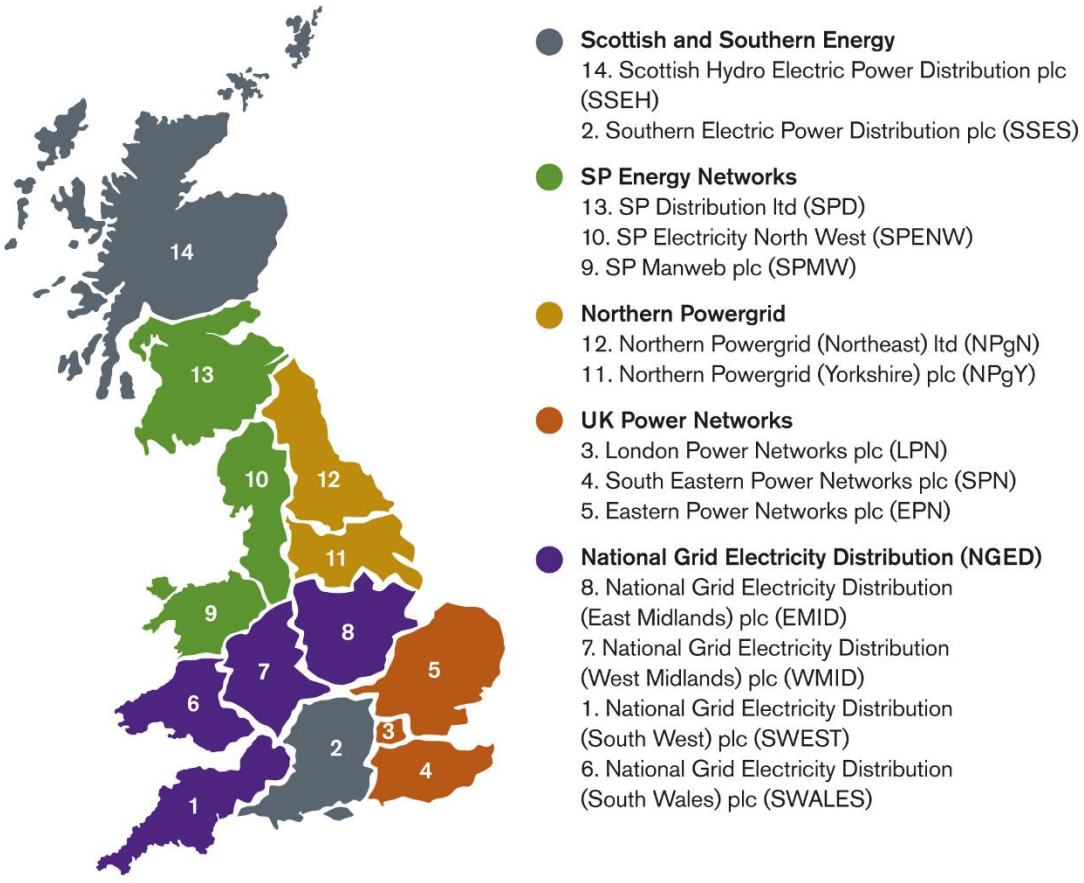
2. ED3 context and process

Background: Electricity distribution and price controls

2.1 The Electricity Distribution network comprises approximately 800,000km of buried and overground cables across GB, transporting electricity from where it is generated to our homes and businesses. Private companies own and operate these networks, and consumers pay for them through energy bills.

2.2 The electricity distribution network carries electricity from the high voltage transmission network, reducing its voltage through distribution transformers, to homes and businesses on the local network. There are 14 electricity distribution licensees across GB, managed by five DNOs. The current structure is shown in Figure 2.

Figure 2: Great Britain's Distribution Network Operators



2.3 DNOs operate in regions where they largely have a monopoly on network services. That is why we set the revenues they can recover from consumers. In setting the price control, we are required to further our principal objective and to have regard to our statutory duties. Our principal objective is to protect the

interests of current and future energy consumers, including their interests in the fulfilment of the UK's net zero targets. This includes ensuring that both existing and future consumers pay a fair price for this transformation, as well as the cost of running these networks and that they get the services they require. We do this through a price control process.

2.4 We have used the RIIO framework for the economic regulation of electricity distribution networks since 2015. RIIO involves setting baseline allowances to deliver core service and minimum standards and incentives to deliver innovation and outputs that consumers value.

2.5 RIIO-ED1 ran from April 2015 to March 2023. RIIO-ED2 started in April 2023 and will conclude on 31 March 2028, at which point new arrangements will be implemented through the Electricity Distribution Licence. ED3 will start on 1 April 2028.

Price control terminology

2.6 Across successive price controls, we have developed a suite of tools and mechanisms to implement a price control framework. We intend to use these tools for ED3 to best protect the interests of current and future consumers. This involves retaining elements of previous price control frameworks that serve that interest, simplifying and streamlining arrangements where possible, but also adapting and evolving new elements to reflect the distinct challenges and opportunities we now face. We are consulting on proposals on how we want to use these tools in ED3.

2.7 In this section we briefly describe the tools that we intent to use to build our framework for ED3.

Outputs and incentives

2.8 We use outputs to reflect the attributes of network service quality that are of most value to current and future consumers (including those in vulnerable situations). Outputs should be specific, measurable and substantively within the control of network companies to deliver. Generally, we expect the delivery level of an output to be funded through baseline allowances.

2.9 Where there is value (or loss) to the consumer of service quality improvement (or degradation) an Output Delivery Incentive (ODI) can be applied to measure how far from the expected level the company has performed. ODIs can be financial (reward and/or penalty) (ODI-F) or reputational (ODI-R) to drive company performance.

2.10 Licence obligations (LOs) reflect minimum standards expected of companies and they must be met. If a company fails to meet a LO they may face formal enforcement action from Ofgem.

2.11 We can also use PCDs to attach funding provided in baseline totex to the delivery of specific projects. PCDs allow us to return money to consumers if the output is not delivered. There are two types of PCD:

- Mechanistic PCDs are set in cases where the cost and scope of a high-volume activity is well understood. In such cases, the recovery of any non-delivery of work is automatic.
- Evaluative PCDs are used for large projects which have clearly defined scopes. This type of PCD allows for an assessment of the output delivered and an adjustment to allowances, if necessary, to protect consumers.

Uncertainty Mechanisms (UMs)

2.12 We expect to set the majority of allowed revenues upfront (or 'ex ante'), so that the companies can finance themselves efficiently and put in place plans to deliver their investment programme within, or below, the budget.

2.13 However, there are some activities that are either introduced in period, or we cannot forecast the associated costs with high degree of confidence at the time of setting the price control. To manage this, we use uncertainty mechanisms, to adjust allowances in period once there is more certainty. These can take the form of:

- volume drivers - where unit rates are stable, but we can adjust allowances based on quantity;
- re-openers - where there is uncertainty on both price and quantity;
- UIOLI - where the specific nature of the work to deliver an output is unclear but it is expected to be of relatively low materiality;
- pass through costs - where expenditure is entirely outside of their control; and
- indexation - where there is material uncertainty in the evolution of prices at the start of the control period, we may use indexation to avoid forecasting errors.

2.14 We expect all of these mechanisms to have a role in ED3, however, we are expecting to make changes. This includes considering rationalising the number of reopeners, developing a more adaptable framework for managing RESP changes and exploring the use of ex post mechanisms (see Chapter 3 and

Chapter 7 for more information on this). This will allow us to simplify the price control whilst still having the ability to adapt within period to ensure protection for consumers.

TIM

2.15 The TIM is a means through which any over or underspends incurred against baseline allowances are shared between the company and consumers. This incentivises companies to seek out efficiencies to lower costs and retain a share of this benefit and avoid cost increases. At the same time, it provides some protection to investors from the risk of costs significantly overrunning which helps to lower the cost of financing the companies. Both these are in the interest of consumers.

National Infrastructure Commission (NIC) recommendations

2.16 In February 2025, the National Infrastructure Commission (NIC) completed its independent review of the electricity distribution system and of the associated regulatory framework.[3] We first responded to the NIC recommendations within our Framework Decision, and we have continued to take the recommendations into account as we develop the methodology. We have provided an updated response to the recommendations relevant to Ofgem in Chapter 9 of this document.

What are we consulting on

2.17 This is our consultation on the methodology we will apply for setting the next electricity distribution price control, starting in April 2028. We began this process in November 2024 with a consultation on our overarching framework for ED3, seeking input from stakeholders on a range of aspects, including the objectives, regulatory models, consumer outcomes and specific measures to address the upcoming challenges and opportunities in the sector.[4] In April 2025 we published our decision on the framework.

2.18 We are now developing the methodology we will use to apply this framework and are seeking stakeholder views on this. The feedback we receive through this consultation will be a vital part of our process in setting the next price control for the electricity distribution sector.

[3] As of the 1 April 2025 the NIC no longer operates and is now part of a new organisation - the National Infrastructure and Service Transformation Authority (NISTA), within HM Treasury. For the purposes of this document, we refer to the NIC as this was the body that carried out the review. [ARCHIVED CONTENT] Electricity distribution networks: Creating capacity for the future - NIC

[4] Framework consultation: electricity distribution price control (ED3) | Ofgem

Next steps: ED3 timetable

2.19 This consultation on the methodology is an important step in the process of setting ED3. We intend to make our decision on the methodology in Spring 2026 and the final Business Plan Guidance will be published at the same time. Together these will inform the Business Plans we expect to receive from DNOs in 2026. The ED3 timetable is as follows and is set out in Figure 3 below:

2024

- Q4 Framework Consultation published

2025

- Q1 National Infrastructure Commission recommendations published
- Q2 Framework Decision published
- Q4 Sector Specific Methodology Consultation published
- Q4 Draft Business Plan Guidance shared

2026

- Q1 tRESP published
- Q2 Sector Specific Methodology Decision published
- Q2 Business Plan Guidance (Final) published
- Q4 DNO business plans received

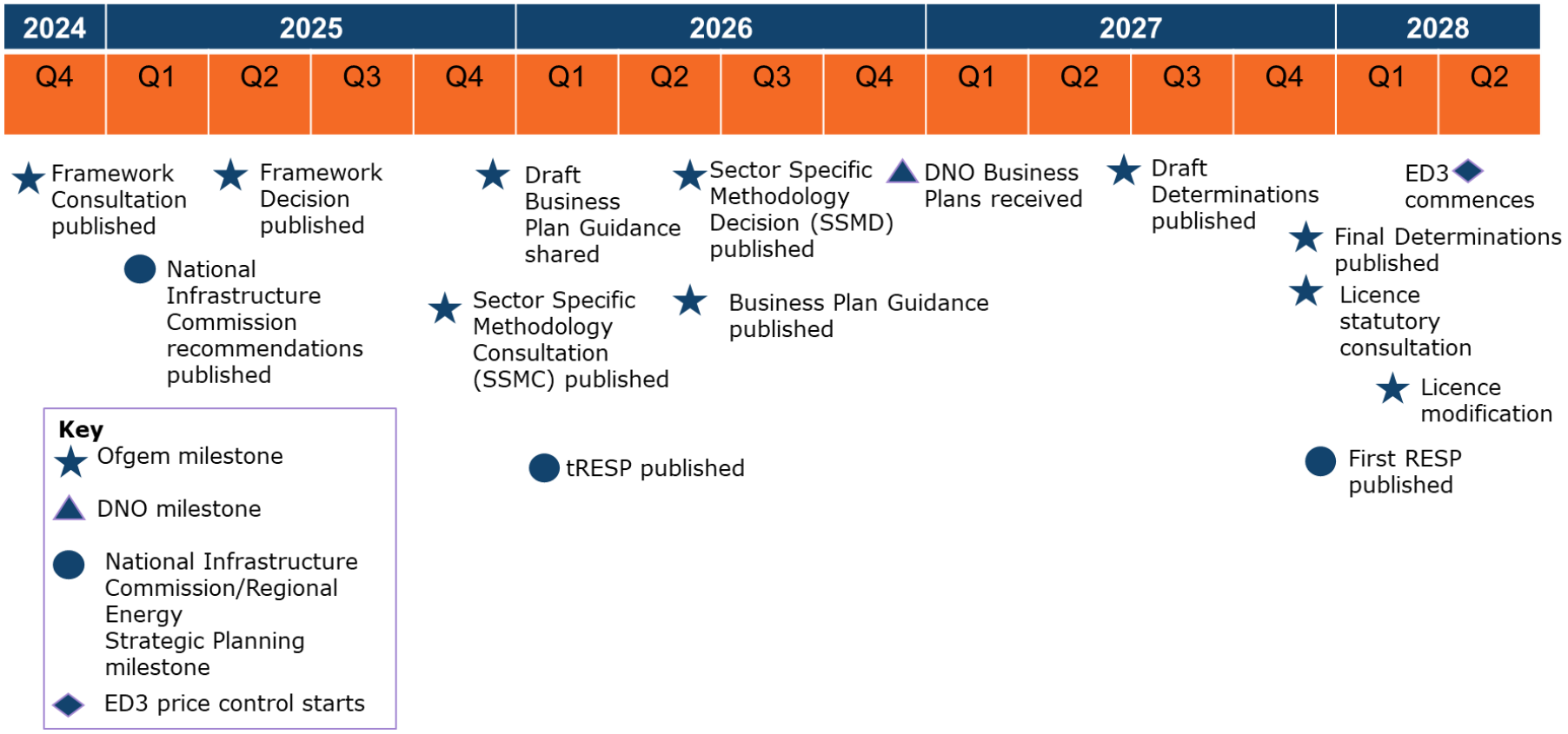
2027

- Q2 Draft Determinations published for consultation
- Q4 Final Determinations published
- Q4 License Statutory consultation
- Q4 First Regional Energy Strategic Plans (RESP) published

2028

- Q1 License modifications
- 1 April ED3 commences

Figure 3: Indicative ED3 timetable and related milestones



3. Investing for the energy transition

Introduction

3.1 DNOs must act decisively in ED3 to prepare the local electricity networks for the electrification of heat, transport and industry, and the growth of distributed generation. This will require a significant and sustained increase in investment over the next two decades - a major change from the long-running steady state where price controls focused primarily on efficient network operation.

3.2 To give effect to this shift, we are proposing a fundamental change to how electricity distribution networks are regulated. ED3 must provide the right framework to enable DNOs to plan strategically, act early, and deliver the infrastructure needed for a resilient, future-ready electricity system.

3.3 A key enabler of this shift is the introduction of RESPs. These plans will provide a coordinated and accountable framework for the strategic planning of the local distribution networks, aligned with national decarbonisation goals. While the full RESP capability develops, the NESO has been commissioned to produce the transitional RESP (tRESP) to inform DNOs' network planning for ED3.[5] These outputs will support greater transparency and consistency in how investment needs are identified and will help shift DNOs towards a more strategic, long-term approach to network development.[6]

3.4 This transition brings new challenges: coordinating investment across multiple drivers, managing delivery risks, and ensuring visibility to the supply chain to avoid bottlenecks in equipment and workforce availability. ED3 is a critical opportunity to put in place the right regulatory methodology that supports proactive and accountable planning and delivery.

Guiding principles

3.5 Through the SSMC we are exploring the most effective regulatory approach to meet our objectives for ED3. While the detailed design is yet to be finalised, we have identified a set of guiding principles that will inform the further development and selection of options and our regulatory approach in ED3. These are:

[5] We set out our expectations for the scope of tRESPs in a letter published February 2025: Scope of the transitional Regional Energy Strategic Plan | Ofgem
[6] NESO are currently consulting on draft tRESP outputs: Transitional Regional Energy Strategic Plan Consultation

- **Consumer value** - Infrastructure funded through ED3 must be delivered in full and on time, ensuring consumers receive the outcomes they are paying for.
- **Strategic alignment** - Investment plans must align with the tRESP, national decarbonisation goals, and long-term system needs.
- **Integrated planning** - DNOs must develop a single, coordinated network development plan that integrates all major investment drivers — including load-related reinforcement, asset health, climate resilience, and environmental goals. Siloed planning risks inefficiency, duplication, and gaming.
- **Transparency and accountability** - Plans and delivery must be traceable, with clear metrics and reporting to hold DNOs to account.
- **Adaptability with safeguards** - Mechanisms must be in place to allow DNOs to adapt to new information, while protecting consumers from inefficiency or gaming.
- **Supply chain readiness** - Investment plans must provide visibility and certainty to the supply chain to enable timely scaling of materials, manufacturing, and workforce capacity.
- **Efficiency and proportionality** - Regulatory mechanisms must incentivise efficient delivery and be proportionate to the scale and complexity of the investment.

3.6 These principles reflect our priorities and will help ensure that the final framework is robust, proportionate, and capable of supporting confident and accountable investment planning and delivery.

3.7 In the remainder of this chapter we outline expectations for long-term integrated network development plans, including their structure, content, and use of strategic planning inputs such as the transitional Regional Energy Strategic Plan (tRESP). The chapter also explores delivery accountability mechanisms and adaptability options to respond to evolving network needs. Finally, we present two conceptual models to illustrate how these mechanisms could be combined to support plan-driven, proactive and accountable delivery in ED3.

Long-term integrated network development plans

Background

3.8 In the Framework Decision, we set out our expectation that DNOs should submit their ED3 investment proposals alongside a long-term, proactive, and integrated

network development plan.[7] We believe that failure to adopt a structured, proactive planning framework, with tRESP as a key input, would present a number of risks. These include:

- **Short-termism -** Focusing only on the five years of the price control period risks misalignment between near-term investment with long-term consumer needs and net zero goals.
- **Silo planning** - Treating investment drivers (eg load, asset health, resilience) separately can lead to inefficiencies, missed coordination opportunities and higher costs.
- **Delivery delays** - Without visibility of future investment plans, suppliers may lack certainty to scale up production and workforce capacity - resulting in shortages, longer lead times and higher costs.
- **Inconsistent planning responses** - Divergent planning approaches across DNOs could reduce the comparability of investment plans and lead to inconsistent outcomes across regions, with inequalities in network readiness and resilience.

3.9 We consider the five-year price controls as staging posts in the overall route map towards long-term goals rather than discrete cycles. In addition, the DNOs should bring together all the major drivers of network investment to identify synergies and optimise delivery.

Proposed approach

3.10 Our proposals for DNOs' long-term integrated network development plans cover:

- objectives;
- structure and content;
- strategic planning inputs; and
- proactive investment guidelines.

Objectives

3.11 Led by our guiding principles, the proposed objectives for the long-term integrated plan are:

- A holistic and long-term view of network needs across multiple price control periods to support proactive network investment aligned with strategic objectives to 2050.

[7] Ofgem | Framework decision: electricity distribution price control (ED3)

- Exploits synergies across different network investment drivers to optimise long-term value in delivering consumer outcomes for the energy transition, network resilience and the environment – into a single, integrated plan.
- Coordinates network interventions to realise efficient delivery and identify innovation opportunities.
- Phases investment across ED3 and ED4 to smooth delivery of investment and avoid disruptive ramp ups that exceed supply chain capability.
- Gives certainty to the supply chain of future demand for equipment and workforce requirements.

Structure and content

3.12 We are proposing the DNOs include the following in their long-term integrated network development plans:

1. Executive summary

2. Outcomes for consumers
    - Regional and local context, including strategic goals.
    - Long-term outcomes DNOs aim to deliver over 25 years, including:
        - Enhanced resilience and reliability
        - Capacity to meet load growth
        - Reduced environmental impact
        - Enabling customer participation

3. Planning pathways and inputs
    - Alignment with tRESP outputs and UK decarbonisation targets
    - Load forecasts, resilience assessments, asset health trends
    - Adaptive pathways to manage uncertainty and known unknowns

4. Future network needs and investment drivers
    - Evolving network constraints over time
    - Asset health and associated risk profiles
    - Resilience risks and emerging vulnerabilities

5. Proactive investment decision-making framework
    - Priorities for unlocking early investment and long-term value
    - Strategic investment needs
    - Sizing asset health interventions to meet future demand
    - Designing reinforcements for scalability and modular extension

- Building for climate resilience
- Synergies from integrated interventions

6. Integrated network development plan
    - Detail of network investments to 2035 (ED3 + 2 years)
    - Indicative interventions post-2035

7. Optimising investment timing
    - Delivery capacity and readiness (see Delivery Strategy in Chapter 6).
    - Network availability
    - Time critical interventions

8. Delivery commitments and monitoring
    - PCDs and output metric milestones/targets
    - Load investment by area
    - Network risk reduction by voltage/asset class
    - Climate resilience investments

9. Evidence, transparency and traceability
    - Investment Decision Packs (see Engineering Assessment in Cost Annex)
    - Business Plan Data Templates (BPDT) for tracking tRESP outputs and other key inputs in the DNO's network impact assessment

3.13 We will provide further detail on these expectations in the ED3 Business Plan guidance (BPG).

Strategic planning inputs

3.14 To ensure DNOs' network planning for ED3 embeds a long-term view in investment strategies we propose that DNOs should:

- adopt a planning horizon aligned with national net zero targets, enabling proactive investment decisions for future network needs; and
- ensure consistency between network impact assessments and strategic planning inputs, including tRESP pathways, local development plans, and regional or national growth priorities.

Use of tRESP outputs

3.15 The NESO will publish the tRESP in January 2026. It will comprise:

- An initial view of regional and national conditions and priorities, informed by regional stakeholders, capturing key drivers of network investment.

- A single 10-year and three long-term projections for selected demand and generation technologies, mapped to RESP regions and aggregated to DNO licence areas.
- Identified areas of strategic investment need in RESP regions and nations, with supporting commentary.
- Consistent planning assumptions (CPA) for electric vehicles, energy efficiency and heat pumps to be used alongside pathways to assess network impacts.

3.16 For ED3, we propose DNOs use the tRESP outputs in their network impact assessment processes. For example, DNOs should include the tRESP pathway outputs in their 2050 demand and supply projections. To do this, the DNOs will need to disaggregate tRESP technology volumes at the Grid Supply Point (GSP) and spatially map these across their network at the sub-GSP voltage levels and then apply the tRESP CPA to derive diversified load profiles, peak demand impacts and forecast asset utilisation out to 2050.

3.17 In addition, DNOs should include in their network impact and optioneering assessments the strategic investment needs identified by the NESO where these are not already captured in the pathways or the connections pipeline.

3.18 We will provide further detail in the BPG setting out how we expect the DNOs to use the tRESP in their network impact assessments.

Transparency of other planning inputs used by DNOs

3.19 While the tRESP will provide consistent pathways for key technologies, it will not capture all the components of total demand. For example, it excludes domestic demand for appliances and lighting and non-domestic demand. DNOs will source these from their 2025 Distributed Future Energy Scenarios (DFES) and combine with the tRESP building blocks to produce complete demand projections.

3.20 This means that tRESP and DFES serve complementary roles: tRESP provides strategic, nationally consistent pathways for key technologies, while DFES captures localised demand drivers.

3.21 To ensure transparency and avoid duplication, we propose that each DNO:

- Clearly documents all the DFES building blocks used to construct its full demand pathway for its network area.
- Confirms that there is no overlap or inconsistency between the DFES inputs and the tRESP pathways.

- Provides an assessment of the electrical load assumptions applied to the DFES building blocks to produce the full demand pathway, evaluated against the best practice criteria developed by the NESO for designing the tRESP CPA such as data reliability, relevance and locationality.

3.22 We will set out further expectations on transparency of planning inputs used by in the BPG.

Proactive investment guidelines

3.23 DNOs must embed proactive investment planning into ED3 to ensure local networks are ready for the rapid and potentially disruptive changes driven by decarbonisation, electrification, and increasing threats to reliability and resilience.

3.24 Without a consistent approach to proactive investment, there is a risk of uneven access to connections for LCTs and distributed generation. This could undermine regional priorities and slow progress to deliver the energy transition. To address this, we propose a set of decision-making guidelines to help DNOs identify and prioritise low-regret investments in ED3.

3.25 These guidelines set out where we see the strongest opportunities for proactive investment, alongside principles for optioneering and prioritisation. We also identify two areas - low-voltage (LV) network reinforcement and unlooping of legacy service connections - where a programmatic, area-based approach may be particularly beneficial.

Indicators of network need and proactive investment opportunities

3.26 We consider proactive investment to be low-regret when one or more of the following apply:

- The tRESP pathways indicate strong future demand or generation growth, even if current utilisation is low.
- Incremental network reinforcement or replacement is required, and upsizing for long-term need can be done at marginal additional cost.
- The investment enables wider societal benefits, such as housing, clean technologies and growth or regionally significant infrastructure.
- Planning, permitting and land acquisition timelines will be lengthy and delaying investment would risk future constraints or connection delays.
- Actions are cost-effective and provide benefits (including co-benefits) under a range of future scenarios eg different climate scenarios.

3.27 We propose that DNOs use a consistent set of indicators to identify potential opportunities for low-regret proactive investment in an evidence-based manner. Some relevant indicators could be:

- Forecasts of high asset utilisation and low headroom (<20%) for demand and generation.
- Connection delays to projects with societal benefit eg not able to meet requested connection dates.
- Increasing risk that curtailment of generation on non-firm connections to exceed acceptable thresholds.
- Delays exceeding one month to connect LCT eg EV and heat pumps.
- Unacceptable risks to reliability and resilience due to ageing infrastructure, climate change.
- High likelihood of a significant number of future network projects requiring complex or lengthy permitting processes.

Optioneering of low-regret proactive investment

3.28 To guide DNOs' interpretation, evaluation and prioritisation of low-regret proactive investment we propose the following guidelines:

- Base assessments on expected future network needs, not just current or near-term utilisation forecasts.
- Explore economies of scale offered by building larger or expandable infrastructure upfront.
- Compare the cost-effectiveness of proactive versus reactive investments, including avoided future costs and delays.
- Design integrated solutions that serve multiple future needs eg load, generation and resilience.
- Conduct sensitivity analyses to test robustness of investment assumptions under the three long-term tRESP pathways.

Proactive programme for reinforcing the low-voltage network

3.29 For ED3, we are considering whether DNOs should adopt a more programmatic approach to reinforcing the low voltage (LV) network. This would move beyond reactive upgrades towards more proactive and coordinated delivery, embedded within their long-term network planning.

3.30 This concept builds on lessons from the iron mains replacement programme in gas distribution, which demonstrated the benefits of long-term, area-based delivery. That programme shows how a structured approach with clear

prioritisation, consistent funding, and coordinated implementation can improve efficiency, reduce disruption, and deliver sustained improvements in network resilience and safety.

3.31 LV networks are expected to come under pressure as the uptake of technologies such as electric vehicles, heat pumps, and distributed generation accelerates. These developments can result in rapid changes to the patterns of electricity demand and generation at the local level. At the same time, many LV assets are aging or were not designed to accommodate bi-directional power flows. While visibility of the LV network is improving it remains incomplete, and ad hoc upgrades risk higher costs and missed opportunities for economies of scale.

3.32 These challenges suggest that a more structured, programmatic approach to reinforcement may be warranted in some areas. Such an approach could involve identifying priority zones based on demand growth pathways, asset condition, or strategic importance, and delivering upgrades in a coordinated, area-based manner, rather than through isolated or reactive interventions. It could also include the deployment of smart technologies to improve network visibility, and alignment with local area energy plans or broader decarbonisation strategies.

3.33 However, we recognise that a programmatic approach will not be suitable in all circumstances. In areas where electricity demand is expected to remain stable, or where constraints are isolated and well-understood, targeted and responsive upgrades may continue to represent the most proportionate and cost-effective solution. The decision to adopt a programmatic approach should be informed by a range of factors, including local network characteristics, customer density, asset condition, and the pace of electrification.

3.34 Nonetheless, there are specific contexts where a programmatic approach is likely to be the most effective response. These include areas experiencing rapid uptake of low carbon technologies such as electric vehicles and heat pumps, regions with known asset constraints or legacy infrastructure, and urban environments where coordination and disruption management are particularly complex. In such cases, a structured, area-based programme of reinforcement could enable DNOs to deliver upgrades more efficiently, reduce disruption, align with long-term strategic planning and unlock greater value for consumers and communities.

3.35 This approach reflects the shift toward proactive network planning that anticipates the networks to support a decarbonised economy. We are keen to

hear stakeholders' views on the opportunities for a programmatic approach to LV network reinforcement, and the circumstances it would be appropriate.

Proactive unlooping services programme in ED3

3.36 Looped electricity service connections - where two or more properties share a single cable from the main network - are a legacy design that poses a barrier to the UK's decarbonisation goals. These connections limit electrical capacity and can prevent the installation of electric vehicle (EV) chargers and heat pumps in homes.

3.37 Approximately 14% of GB homes (around 4 million properties) are estimated to be looped, though the true scale remains uncertain due to data quality issues. Without intervention, the current reactive pace of upgrades could frustrate customers' plans to switch to low-carbon technologies and undermine the energy transition as customers continue to opt for fossil fuel technologies due to ease. This is particularly important for those customers whose boilers have failed and require an immediate replacement. Any delay in installing a new heating system will impact their decision on whether to decarbonise or not.

3.38 Performance in RIIO-ED2 has been mixed. DNOs have unlooped around 38,000 homes to date. However, in 2024/25 the pace slowed with total unlooping falling by 8% on the year before. Most DNOs only act when prompted by a customer seeking to install LCTs (known as reactive unlooping), and all but two licence areas reported increases in reactive unlooping.

3.39 While some DNOs have launched proactive unlooping programmes and committed significant investment, the absence of a national programme is resulting in a fragmented, postcode-dependent approach. This risks creating regional inequalities and slowing the adoption of LCTs.

3.40 Stakeholders including the Department for Energy Security and Net Zero (DESNZ), NIC, and consumer groups have expressed strong support for a coordinated, programmatic solution to unlooping in ED3.

Proposed approach

3.41 We propose to introduce a requirement for all DNOs to adopt a proactive, programmatic approach to upgrading looped service connections during the ED3 period. We propose this includes:

- **Data-driven mapping** to identify high-density looped areas and prioritise upgrades.

- **A national area-based approach** to ensure consistency, efficiency, and transparency.
- **Standardised reactive uplooping protocols**, including contingency capacity and performance incentives and backstops. This will form part of the ongoing end-to-end connections review looking at standardisation and standard setting across reactive connection activities. For proposals on incentives for reactive unlooping see 'Connections - incentive for smaller connections' in Chapter 4.

3.42 This approach aligns with our strategic objective for proactive investment in network capacity. It reflects lessons learned from RIIO-ED2, where reactive upgrades are slower and more costly than proactive unlooping. By introducing a proactive approach to unlooping in ED3, this will enable the network to be ready for when a customer wants to connect an LCT, ensuring they do not face avoidable delays and supports the timely energy transition. It also responds to consumer frustration and supports equitable access to low-carbon technologies.

3.43 A programmatic approach offers significant economies of scale. By coordinating upgrades across neighbourhoods, DNOs can reduce unit costs, minimise repeated streetworks and streamline workforce deployment. It also supports efficient planning and delivery, reduces disruption for customers, and supports long-term investment in skills and supply chains. Integration with other network upgrades and customer-facing programmes, such as energy efficiency and load management, can further enhance value.

3.44 To ensure fairness, and efficiency, we consider that national consistency is needed to avoid a fragmented, postcode-dependent experience for consumers and ensure that the benefits of proactive unlooping are delivered equitably and efficiently across the country. We propose this includes:

- **Solutions deployed** - A common framework for the types of technical solutions used, for example full unlooping, 3-phase supply upgrade, load management, with clear criteria for when short-term measures are appropriate versus full upgrades.
- **Customer information and cost coverage** - Clear, consistent information for consumers about what works are covered by the DNO and any costs consumers may be expected to bear.
- **Service commitments and timelines** - Standardised service commitments across all DNOs, including timeframes for proactive and reactive unlooping and protocols for emergency upgrades. These could be

backed by an incentive, Guaranteed Standards of Performance (GSoPs) or compensation mechanisms (see discussion on 'Connections - incentive for smaller connections' in Chapter 4).

- **Customer refusal** - A national protocol for cases where a customer declines proactive unlooping. We propose this includes:
  - Transparent communication about the upgrade's purpose and benefits.
  - Reassurance on minimising disruption and reinstatement of property to its previous condition.
  - A standardised process for documenting refusals and re-engaging customers in future.
  - Safeguards to ensure customers are not penalised or excluded from future upgrade opportunities.
- **Reporting and metrics** - Reporting of common metrics eg number of properties unlooped, customer satisfaction to support performance monitoring and transparency across regions.

Upfront funding of ED3 investment

3.45 We will set allowances upfront for DNOs to deliver low-regret proactive investment over ED3. This funding certainty will give the DNOs the confidence to plan strategically, mobilise resources early and engage proactively with the supply chain. It also provides a clear baseline against which delivery can be measured and assessed.

3.46 However, upfront funding increases the need for robust accountability. Without strong delivery mechanisms, there is a risk that companies could underspend or defer investment—potentially benefiting from 'efficiency savings' at the expense of consumers and future system readiness.

3.47 To mitigate this risk, the price control must include clear expectations and delivery accountability to ensure that funded outputs are delivered in full, on time, and to the required standard.

Consultation questions

Q1. What are your views on our regulatory guiding principles that will inform the development of accountable investment planning and delivery?

Q2. Are the proposed objectives for the long-term integrated network development plans appropriate?

Q3. What are your views of proposed structure and contents of the plan?

Q4. Do you agree with the proposed use of tRESP outputs in DNOs' network impact assessments?

Q5. What are your views on the guidelines for proactive investment decision-making across all DNOs?

Q6. Do you agree that LV network reinforcement and unlooping of legacy service connections are suitable areas for a programmatic, area-based approach in ED3? Why or why not?

Q7. What are your views on the need for national consistency in the delivery of proactive unlooping programmes?

Strengthening delivery accountability

Background

3.48 A strategically planned and funded approach to network investment is only effective if it is matched by robust delivery.

3.49 In RIIO-ED2, mechanisms such as the secondary reinforcement volume driver and an ex post review of the load related expenditure (LRE) trigger for under-delivery were introduced. However, most network reinforcement allowances are not tied to specific output or volume measures.

3.50 In ED3, the potential consumer harm from under-delivery is greater than before given the significant increase in investment. Therefore, the regulatory framework must hold DNOs to account for delivering the outputs that underpin their allowances, and give confidence to consumers, stakeholders and the supply chain that infrastructure will be delivered as planned.

Proposed approach

3.51 We are in the early stages in developing the detailed design of delivery accountability mechanisms for ED3. However, we are clear that our approach must:

- ensure that funding translates into timely and tangible outcomes in ED3;
- hold DNOs to account for the pace and volume of delivery against their investment plans, with clear consequences to ensure that DNOs do not benefit from under-delivery or deferral;
- avoid duplication, double counting, or gaming of outputs;
- be proportionate to the scale and complexity of investment, and transparent in its operation; and
- provide clear signals to the supply chain for scaling up capacity.

Options under consideration

3.52 We have identified several options for tracking and holding DNOs to account for delivery, recognising that different approaches may be better for different types of investment. The broad options include:

- **PCDs** - This option involves setting a licence requirement for the DNO to deliver specific named projects or investment programmes. These would typically address strategic investment needs identified though tRESP or other high-value interventions to address other investment drivers. Delivery would be monitored through annual reporting and project close-down reports.
- **Volume-based measures** - Targets would be set for the delivery of specific asset class volumes, taken from the interventions in the DNO's ED3 investment plan, for example, the number of primary transformer upgrades. Progress would be tracked via reported volumes in the annual report.
- **Output-based metrics** - An aggregate target would be derived from the expected contribution of the ED3 investment plan interventions to a relevant measure. Delivery would be monitored by tracking the relevant metric delivered by completed interventions, as reported annually.

3.53 Several DNOs have already proposed initial proposals for output-based metrics. UK Power Networks (UKPN) and Northern Powergrid (NPg) have jointly proposed a metric called Timely Additional Network Capacity Indicator, which would measure the net asset capacity added through delivered interventions in ED3.[8] This aims to provide a direct link between investment activity and capacity outcomes. Meanwhile, SP Energy Networks (SPEN) has proposed an alternative metric focused on load risk reduction, using the primary network Load Index to track improvements resulting from delivered interventions.[9]

3.54 Our assessment of the high-level options is summarised in Table 1.

[8] RIIO Engagement Portal - 25 June 2025 - All Documents
[9] RIIO Engagement Portal - Documents - 13 August 2025 - All Documents

Table 1: Assessment of delivery accountability options

Criteria	PCDs	Volume-based measures	Output-based metrics
Alignment with tRESP and long-term network needs	Strong alignment with specific interventions in the ED3 investment plan	Moderate alignment with ED3 interventions informed by tRESP	Alignment depends on whether the metric reflects strategic value, eg highlighting where new capacity is most needed
Consumer value	High confidence of consumer value in ED3 plan being delivered due to defined intervention scope	Expect equivalent consumer value to be delivered as ED3 plan, but potentially via slightly different interventions	Equivalence of consumer value versus the ED3 plan depends on the metric's focus and design
Balance between delivery certainty and agility	High delivery certainty but limited flexibility to adapt delivery to new information within the ED3 allowances	Certainty with some flexibility to adapt aspects like location and timing within ED3 allowances, provided target volumes are met	Some certainty with the most flexibility to adapt interventions within the upfront ED3 allowances as long as the target metric is met
Visibility of investment pipeline	High certainty of interventions supports supply chain planning	Good visibility, as scope and volume are fixed by the target	Some uncertainty for the supply chain if interventions can change during ED3
Proportionate reporting	High effort - requires detailed monitoring of all projects and programmes	Moderate effort - tracks delivery reported volumes	Moderate effort - tracks delivery through metric based contributions of interventions
Captures delivery of benefits from other investment drivers	Yes, but requires explicit specification of benefits under PCDs	Yes – can monitor delivered volumes from other drivers	Depends on metric's focus eg a load-risk metric may not capture benefits of upsizing for futureproofing if load risk at site is low

3.55 The assessment highlights that across the options there are various trade-offs between delivery certainty, adaptability and strategic value as follows:

- **PCDs** - a high-certainty, low-flexibility approach that strongly aligns with the tRESP and the DNO's ED3 investment plan. It provides high confidence in delivering consumer value due to its defined scope and clear visibility for the supply chain. However, it has limited ability to adapt delivery within the upfront ED3 allowances during the price control period. Also, it would require additional PCD to capture benefits from complementary

investments. Suited for contexts where delivery certainty and traceability are prioritised over adaptability.

- **Volume-based measures** - a moderately flexible approach that maintains delivery volumes and asset class equivalence, with some ability to modify aspects like location and timing. It is expected to deliver consumer value broadly in line with the ED3 plan, potentially through slightly different interventions. It can capture asset additions from other investments, has a moderate link to tRESP and gives good visibility of the investment pipeline. Monitoring effort is less than for PCD and the approach is suitable where a balance between delivery certainty and adaptability is needed.
- **Output-based metrics** - a flexible, metric-driven approach that enables adaptive delivery. It could reflect strategic value, such as targeting areas with the greatest need for new capacity. However, its effectiveness depends on the quality of the metric and its ability to accurately measure the contribution from diverse interventions. It involves moderate reporting effort but may lack visibility for the supply chain and may not capture benefits from interventions if these fall outside the metric's scope. Suitable for contexts where adaptability is needed to respond to evolving system needs, though it may require careful metric design to ensure effectiveness.

3.56 While each option has distinct strengths and weaknesses, none stands out as universally optimal, particularly given the diverse nature of network interventions required during ED3 - spanning different voltage levels, asset classes, degrees of replicability, and certainty.

3.57 Our guiding principles (see Paragraph 3.5) prioritise delivery certainty, reflecting the significant consumer harm that could arise from under-delivery, gaming of plans, or deferral of investment to future price control periods. However, we also acknowledge the need for flexibility to accommodate real-world changes within the allowances set upfront for network investment in the ED3 settlement, and ensure networks remain responsive and future-ready. The final framework may need to combine elements from multiple approaches to balance certainty, adaptability, and consumer value.

3.58 We are continuing to consider the options to strengthen delivery accountability in a way that reflects the guiding principles we have set out. We welcome stakeholders' views on how best to design delivery accountability mechanisms that reflect our guiding principles and support confident, timely delivery.

Delivery incentives

3.59 Upfront funding certainty will be a key enabler of proactive investment in ED3. However, it may not be sufficient on its own to ensure timely and effective delivery. Strong accountability mechanisms are essential to translate investment plans into tangible outcomes.

3.60 We are considering whether additional delivery - such as financial penalties for under delivery - are needed to support delivery performance.

3.61 This should be considered in the context of mechanisms such as:

- the TIM, which rewards efficiency and may be made conditional on delivery performance (see Chapter 8); and
- the ODI proposals for timely customer connections (see Chapter 4).

3.62 If these mechanisms are robust, they may provide strong incentives for DNOs to deliver capacity proactively and efficiently. In that case, layering further incentives could risk overcomplicating the framework or diluting the effectiveness of service-focused incentives.

3.63 We are seeking views on whether further delivery incentives are necessary, and if so, how they could be designed to complement existing tools without undermining simplicity or proportionality.

Consultation questions

Q8. What are your views on high-level delivery accountability options and their respective strengths and limitations?

Q9. Should delivery accountability mechanisms prioritise certainty over flexibility when funding low-regret, proactive investments aligned with strategic value decarbonisation and growth goals?

Q10. Are additional delivery incentives needed, or can a combination of accountability mechanisms and output-based incentives sufficiently ensure delivery performance?

Adapting for additional investment needs during the ED3 period

Background

3.64 Strategic planning inputs such as the tRESP are improving the visibility of long term network needs. However, these inputs will evolve over time, with national strategic planning outputs such as the Strategic Spatial Energy Plan, and the RESP updates expected every three years.

3.65 These updates may identify new investment needs that were not captured in DNOs' original ED3 investment plans. In parallel, location-specific customer-led

developments - such as large industrial or distributed energy connections - can emerge outside of the RESP cycle and significantly impact network requirements.

3.66 DNOs must be able to respond to these new network needs. While some of the delivery accountability options considered in the previous section offer flexibility to adapt to new information by modifying interventions delivered within the ED3 settlement for network investment, they would not be able to accommodate significant new additional investment needs.

3.67 In the Framework Decision, we recognised this challenge and committed to exploring mechanisms for DNOs to incorporate significant new additional investment needs during ED3 while maintaining accountability and protecting consumers. This adaptability is essential to ensure that the network remains responsive in the face of uncertainty, while maintaining accountability and protecting consumers.

Options under consideration

3.68 We are considering two broad categories of mechanisms to support adaptability:

<u>Ex ante flexibility mechanisms</u>

3.69 These mechanisms allow for funding adjustments before delivery, based on predefined triggers or streamlined assessment.

- **Re-openers** - Triggered by changes in strategic planning inputs, such as RESP updates identifying new Strategic Investment Needs (SINs).
- **Volume drivers (VDs)** - Allowances adjust automatically based on reported volumes and pre-agreed unit costs. Suitable for replicable, high-volume interventions such as low-voltage (LV) network reinforcement.

3.70 These mechanisms are appropriate where strategic planning inputs evolve during the price control period or when the actual requirement for standardised interventions exceeds the plan.

<u>Ex post mechanisms</u>

3.71 These mechanisms allow DNOs to proceed with investment and seek funding adjustments after delivery, subject to review.

- **Adjustment mechanisms** - We could adjust allowances based on delivery against the upfront agreement. For example, if a DNO delivers additional investment than is included in the ED3 settlement, we would review the case and, where the additional costs are justified, adjust allowances to make the DNO cost neutral.

- **Rate of return on equity (RoRE) mechanism** - Similar to the adjustment mechanism above, but in addition we could apply efficiency incentives retrospectively, based on benchmarking or delivery performance.

3.72 These mechanisms may be suitable for urgent, bespoke, or complex projects where costs and scope are uncertain at the outset. Table 2 outlines our assessment of the options.

Table 2: Adaptability options assessment

	Volume driver	**RESP re-opener**	**Ex post review**
Trigger	RESP pathway for LCT growth/actual asset utilisation > tRESP	RESP recommends additional Strategic Investment Needs (SIN)	Completion of additional network investment with incurred costs
Adjustment scope	Allowances adjusted based on reported volumes and pre-agreed unit costs	Allowances adjusted following assessment and new PCD added	Allowances adjusted
Adjustment speed	Fast - automatic adjustment based on reported volumes	Medium - Follows streamlined assessment of project scope and efficient costs	Fast - cost pass through with ex post efficiency assessment
Admin effort	Low - relies on predefined parameters	High - requires submission and assessment	Medium - requires cost tracking and audit
Agility	High - responsive to forecast and actual changes in asset utilisation	Medium - tied to specific RESP recommendations	High - DNO could proceed at anytime
Risks to consumers	Low - pre-agreed unit costs	Low - scope, costs and PCD are approved ahead of delivery	High - limited efficiency incentive and possible gaming if can swap out costly baseline project into ex post
Risk to DNOs	Low - certainty of funding	Low - certainty of funding	High - funding uncertain until ex post review
Delivery accountability	High - link to delivered volumes and monitoring metrics	High - link to PCD	High - link to actual delivery and costs
Use case	Replicable and high volume interventions	High value, bespoke projects potentially spanning price controls	Urgent, complex/uncertain cost projects

3.73 Each of the above models presents different trade-offs between speed, administrative effort and consumer protection, and each could be adapted through the process of detailed design.

3.74 We recognise that different types of change require different regulatory responses. For example:

- RESP updates of new strategic investment needs or significant revisions to projections may warrant reopeners, particularly for high-value strategic investments or programmes.
- Localised developments such as new housing or industrial connections may be better accommodated through volume drivers or ex post mechanisms, depending on scale and urgency.

Timing of RESP re-opener

3.75 The RESP re-opener discussed here refers to the mechanism outlined in the previous section, designed to accommodate material changes in strategic planning inputs during the ED3 period.

3.76 The first full RESP is expected to be available in late 2027, prior to the start of the ED3 price control period. This could give rise to two types of scenarios:

- **Incremental changes** - where future network needs differ in part to what was indicated by the tRESP but remain broadly within the scope of the agreed ED3 settlement for network investment.
- **Material changes** - where significant new investment needs are identified, requiring a substantial addition to the DNOs' investment plans.

3.77 In the first case, we consider that adjustments could be managed using other the mechanisms - for example, through flexibility in the upfront allowances, volume drivers, or ex post adjustment options. However, in the second scenario, a formal RESP re-opener would likely be required to ensure that the DNOs can respond appropriately to the updated strategic outlook.

3.78 To accommodate this, we propose introducing a reopener window at the end of year two/start of year three of ED3. This would allow DNOs to submit revised proposals where necessary, without undermining the integrity of the original ED3 settlement. In Year one, DNOs could be asked to provide an update on their delivery plans and signal any anticipated significant changes, with formal reopener submissions made in the reopener window.

3.79 The second iteration of the RESP is expected to be available in late 2030. This will coincide with the next price control review and inform DNOs' investment

planning for the ED4 period, which begins in April 2033. This could give rise to the following scenarios:

- **Incremental changes in ED3** - where future network needs differ slightly from those anticipated in the ED3 settlement but remain broadly within its scope.
- **Material changes for ED3** - where significant new investment need is identified during the latter half of ED3 or needs to be mobilised for early delivery in ED4.

3.80 Similar to the first full RESP, we think that adjustments for incremental changes could be managed using the other mechanisms. These options should provide sufficient flex to accommodate modest shifts in investment needs without requiring a formal reopener.

3.81 In contrast, material changes may exceed the scope of existing mechanisms and warrant a formal reopener to ensure appropriate funding, accountability, and strategic alignment.

3.82 To support this, we propose a reopener window in year 4 of ED3. DNOs would be asked to provide an update in year 3 of changes arising from the second RESP that affect the remainder of their ED3 investment programme. Formal reopener submissions made in year 4. This would allow DNOs to submit proposals where necessary to maintain momentum in proactive investment across the two price control periods.

Consultation questions

Q11. What are your views on the assessment of the adaptability mechanisms, and should additional criteria be included?

Q12. How could the adaptability options be refined or combined to better support timely and strategic investment during ED3?

Q13. How can adaptability mechanisms be designed to ensure DNOs respond quickly to new network needs while maintaining transparency, accountability and value for money?

Q14. What are your views on the proposed timing of the RESP reopener windows in years 2 and 4 of ED3?

Conceptual models for ED3 delivery

3.83 The delivery accountability and adaptability mechanisms discussed in the previous sections can be combined in different ways to support proactive network investment and delivery in ED3.

3.84 To illustrate how these mechanisms might work in practice, we set out two conceptual models. Each model reflects a different ranking of the guiding principles set out in Paragraph 3.5 - including consumer value, delivery accountability, adaptability, supply chain readiness and efficiency and proportionality. These models are not mutually exclusive. They are intended to help stakeholders consider how the mechanisms could be combined to support regulatory outcomes.

Model 1: Plan and adapt

3.85 This conceptual model may be more appropriate where DNOs need to respond dynamically to evolving network needs, while still being informed by strategic planning inputs such as the tRESP. It also supports the principle of accountability through flexible metrics and post-delivery review. This approach is suited to contexts where uncertainty is high and adaptability is needed to avoid misaligned investment or the risk of stranded assets.

3.86 The key features of this model are:

- **Establishing an output-based metric** that quantifies the cumulative impact of delivered interventions on a defined network outcome over the ED3 period. Example metrics could include net added asset capacity or load risk reduction, as proposed by the DNOs.
- **Deriving the metric target** by aggregating the expected contributions of individual interventions in the ED3 investment plan and translating them into a measurable output-based target.
- **Allowing flexibility in delivery** by not requiring DNOs to implement the specific interventions set out in their ED3 investment plan. Instead, DNOs must achieve the agreed target, enabling them to adapt the scope, location, and timing of interventions in response to real-time changes and emerging network needs - provided the overall target is met within the parameters of the ED3 settlement.
- **Aligning delivery with tRESP outputs** by setting output-based target metrics disaggregated by voltage level and grid supply point. This ensures that interventions are directed to areas of strategic need. This would involve a trade-off, reducing the degree of flexibility available to DNOs.
- **Using ex post adaptability mechanisms** to accommodate urgent or significant investments that cannot be incorporated into the original ED3 plan. These mechanisms allow for funding adjustments to reflect actual spend, subject to review against pre-specified criteria.

- **Applying the RESP reopener** to accommodate significant new strategic investment needs identified through RESP updates during the ED3 period, ensuring responsiveness to material changes in network priorities.

Model 2: Plan and deliver

3.87 This conceptual model may be more appropriate where DNOs need to respond in a coordinated and timely manner to clearly defined investment needs, as set out in strategic planning inputs such as the transitional RESP. It also supports the principle of delivery focus - ensuring timely and traceable delivery of planned investments, with strong visibility for the supply chain and high confidence in consumer value. This approach is well suited to contexts where investment requirements are more certain and where a structured, transparent framework is needed to support efficient delivery and stakeholder confidence.

3.88 The key features of this model are:

- **Using PCDs and volume-based measures** as the primary delivery accountability tools. These hold DNOs to account for delivering specific, pre-agreed outputs, with a clear and traceable link between funded interventions and expected outcomes.
- **Specifying agreed interventions and asset volumes** based on the ED3 investment plan, with limited scope for adaptation during the price control. This approach prioritises strategic alignment, delivery certainty and enables robust monitoring of progress against the original plan, giving stakeholders confidence that investment will be delivered as intended.
- **Applying the RESP reopener** to accommodate material revisions to strategic planning inputs, particularly where the RESP identifies new strategic investment needs.
- **Using volume drivers** to adjust funding for standardised, replicable interventions - such as low-voltage network reinforcement - where actual volumes exceed initial forecasts. This provides an automatic route for accommodating incremental changes in demand or utilisation.
- **Using ex post adaptability mechanisms sparingly**, primarily for urgent or complex projects where scope and costs are uncertain at the outset to allow DNOs to proceed with delivery and seek retrospective funding adjustments, subject to review.

3.89 We recognise that there are different ways to combine mechanisms for delivery accountability and adaptability, reflecting different priorities within our guiding principles, and that these elements must work together as a coherent package.

3.90 The "Plan and Adapt" model emphasises flexibility and responsiveness to evolving network needs, while the "Plan and Deliver" model prioritises delivery certainty and strategic alignment. Both approaches have merit, and the optimal framework may involve elements of each, tailored to the nature of the investment and the level of certainty around future needs.

3.91 Our current position is that we should put more emphasis on plan-led delivery and ensuring that consumers receive what they pay for. While this may reduce some in-period efficiencies in procurement and delivery, we consider these trade-offs to be proportionate. The potential consumer harm from deferring investment or failing to deliver in-period is likely to outweigh the benefits of short-term cost savings. We welcome stakeholder views on how these models, or alternative combinations, could best support confident, accountable, and future-ready delivery in ED3.

Consultation questions

Q15. What are your views on the combination of mechanisms presented in the two conceptual models? Do they effectively illustrate how different regulatory tools could be packaged to support strategic delivery in ED3?

Q16. In the context of ED3, do you consider that we should put more emphasis on Plan and Adapt or Plan and Deliver — to be more appropriate for achieving the guiding principles set out in Paragraph 3.5? Please explain your reasoning.

Q17. Are there additional mechanisms or combinations of mechanisms that should be considered to better support strategic, accountable, and adaptable delivery in ED3? If so, how might they complement or improve upon the models presented?

4. Responsible and sustainable business

Introduction

4.1 Given the complexity of the price control and changing circumstances that the energy transition is bringing it is important that DNOs operate responsibly and sustainably.

4.2 A key area of focus is connections and the need to support consumers to simply and easily connect to the network. In ED3 we want DNOs to speed up connection timelines and deliver an even better quality of service. This in turn will also deliver on national priorities. We are therefore proposing to refine the current connection types to better reflect the experience of different customers, as well as reviewing the current incentives to support the connection of low carbon technologies. DNOs are encouraged to not wait until the start of ED3 to begin making changes and should be speeding up their processes and connection times now.

4.3 This chapter also covers the evolving role of DNOs in supporting vulnerable consumers, delivery of energy efficiency and low carbon technology measures and proposals to evolve and strengthen the Environmental Framework.

4.4 To ensure these proposed changes benefit energy consumers we propose to increase the transparency and strengthen the accountability for consumer outcomes. We are consulting on principles for a consumer value framework, that will be able to articulate the wider value DNOs generate, both in their business plans, but also in terms of enduring delivery.

4.5 The companies' business plans will be underpinned by consumer research and identification of the priorities of current and future customers. We have therefore provided guidance on best practice research. During the development of these plans, we believe independent scrutiny is important and have provided guidance on independent stakeholder groups to hold the companies to account both during development of the plans and on an on-going basis.

Connections

Background

4.6 There is common agreement that as we progress with the energy transition and electrify our economy, we will see a significant increase in the number of connections needed to the distribution network. Delivery of an effective and efficient connections process will be a key measure of success for ED3.

4.7 The grid connections process is already undergoing a major period of reform across both the transmission and distribution systems. NESO's TMO4+ Connections Reform, approved by Ofgem in April 2025, introduced a new gated application process for all transmission and distribution generation / storage projects[10] that will speed up customer energisation and ensure that only viable and strategically needed projects receive a place in the connections queue.

4.8 In parallel with connections reform, we also published our end-to-end connections review consultation.[11] This review covered seven broad themes, all of which we see as critical to a well-functioning regulatory regime.[12] The intended outcome of the reviews is a strengthened and enabling regulatory framework for DNOs, TOs and NESO to deliver an improved quality of service and more timely connection outcomes.

4.9 Findings from the first stage of the end-to-end connections review and its next steps are expected to be published before the end of the year. However, we have already started incorporating some of the feedback from the review within the proposals we have set out in this consultation. We will continue to ensure both the end-to-end connections review and the development of the ED3 methodology are developed in tandem with the intention of ensuring that DNOs are doing all they can within the new connections process to drive up standards and ensure timely connections. This work will be in unison with the wider connections reform, which we expect will increase the connection rate of Clean Power 2030 aligned projects.

4.10 The current connection incentives were intended to drive up the quality of service for connecting customers and are seen to be working with licensees generally meeting targets year on year.[13] However, we recognise that the ED3 period, and beyond, will see a significant increase in, and diversity of, connections being requested. This is particularly the case at the level of domestic and small commercial premises, where we expect an increase in low-carbon technology (LCT) adoption, such as solar photovoltaic (PV), heat pumps, EV charge points and batteries. This will need DNOs to be more agile, faster,

[10] Distribution demand projects are not in scope of TMO4+.
[11] Connections end-to-end review of the regulatory framework | Ofgem
[12] The seven themes are: Visibility and accuracy of connections data; Improved standards of service across the customer journey; Network companies being required to meet connection dates in connection agreements; Quality of connection offers and associated documentation; Ambition of connection offers; Minor connections (low voltage); and Provision and guidance for determinations
[13] In major connections, all but one licensee met or exceeded their target in the reporting year 2023/2024. In minor connections, there is a range in performance across the licencees with a mixture being in penalty and reward across the two time-based metrics.

deliver better quality service to meet consumers' needs and expectations and government ambition for LCT rollout.

4.11 Therefore, our proposals for ED3 are centred on three key areas:

- redefining the current categories we use to distinguish between different connection types;
- reviewing incentives for customers requiring a smaller sized connection; and
- reviewing incentives for customers requiring a larger sized connection.

Proposed approach

Redefining connection types

4.12 The Connections incentives in RIIO-ED2 are split into two separate mechanisms based on the voltage level of the connection, "minor connections"[14] and "major connections".[15]

4.13 Minor Connections are currently incentivised through two output delivery incentive metrics, 'Time to Quote' and 'Time to Connect'. Both are financial incentives which offer DNOs a reward or a penalty depending on how they perform against targets.[16]

4.14 Major connections are incentivised through the Major Connections Customer Satisfaction Survey (MCCSS) and the Major Connections Annual Report (MCAR). MCCSS is a financial incentive where DNOs can face a penalty if they fail to meet a target score. There is no reward available under this incentive. MCAR is an obligation on each DNO to report on their performance in delivering against their Connections Strategy for major connection customers. There is no financial incentive associated with this obligation.

4.15 The current split of 'minor' and 'major' connection types result in a broad church of connection activities falling under 'major' connections. This means relatively simple low voltage only works that do not qualify as a minor connection are counted in this category. This includes both demand and generation customers,

[14] Minor connections consists of the market segments LVSSA and LVSSB. LVSSA includes a small low voltage demand connection to single premises, involving a single-phase connection and no significant other work. LVSSB includes a low voltage demand
connection, where the scheme requires i) more than one but less than five single-phase connections at domestic premises, ii) fewer than five single-phase connections at domestic premises and an extension of the existing network, or iii) single premises requiring a two-phase or three-phase connection.
[15] Major connections consists of metered demand connections for low voltage works, apart from LVSSA and LVSSB; high voltage work (including LV work in respect of LVSSA and LVSSB); HV and extremely high voltage (EHV) work; EHV work and above; as well as all metered distributed generation (LV, HV and EHV); and all unmetered connections. Please see RIIO-ED2 Major Connections Governance document for full list: Major Connections Governance Document
[16] Activities in scope are those where a formal quotation has been issued as laid out in Annex G of the Regulatory Instructions and Guidance

as well as unmetered connections, such as streetlighting. These are handled and reported in the same way as 33kV Extra High Voltage (EHV) connections and above. This split can cause issues and confusion for connecting customers, as has been highlighted in responses to the end-to-end connections review. As more customers adopt small-scale generation LCTs, including electric vehicles with Vehicle-to-Grid capability, we could see this split cause even more confusion.

4.16 The current set up means that we neither have good visibility of the volume of different types of connections being made at the distribution level nor have the assurance that the customer journey is appropriate and streamlined for the type of connection requested.

4.17 We are therefore looking to redefine our current connection types from 'minor' and 'major' into connection categories that better reflect the experience of different customers. This should improve customer outcomes by creating the framework to make more tailored customer journeys, set standards and/or service commitments (with compensation mechanisms where they are not met), and give us better visibility and monitoring over connections activity. This thinking is in line with our intended outcomes of the end-to-end connections review.

4.18 We are consulting on how we might redefine the connections types and are asking for stakeholders' views on two different options:

- **Option 1 - splitting connections by voltage work required**: for example, 'minor' category for all LV works including LV generation, 'medium' category for LV-HV works up to 11kV, and 'Major' category for everything above or requiring a transmission impact assessment.
- **Option 2 - splitting connections by customer type**: for example, splitting customers into domestic, commercial, public/government, generation, industrial energy intensive. Splitting by customer type should allow for specific journeys for different customer types to be created but should still have scope to subdivide by voltage work. For example, 'commercial – minor' for a shop installing an EV charge point and 'commercial – major' for motorway service areas installing MW chargers for large transport.

4.19 Both options present pros and cons. DNOs have expressed that splitting by voltage work provides a clearer way for them to categorise their work and help them create customer journeys that have relevant milestones for each stage (eg

offer issuance, kick off meeting, connection start, energisation). Performance could then be measured against these milestones. However, voltage may not be an easy concept for customers to understand and engage with, especially if categories are defined by the highest voltage level worked on, (ie - a customer may require a LV connection, but if HV works are required to support the connection, it would fall into a HV related category, which may cause confusion).

4.20 Customer type may be easier for the customer to associate with and could make it easier to create standardised customer journeys across DNOs with clear minimum standards and/or service level commitments. However, the range of customers potentially falling under a category could present operational challenges for the DNO in how they report on works and in classifying customers. It could then be harder for the DNO to communicate to the customer the nature of their works required, and their associated timescales, which could negatively impact the customer's overall experience. However, the option to split by voltage type within customer type could help address this.

4.21 We are mindful that any change to connection types must be balanced against the necessity of keeping the incentives focused on timely delivery and quality of service, and not over-complicating them, so they can be delivered, measured, and incentivised effectively. More granularity within the framework should ensure better oversight, more tailored customer journeys, and more defined targets, but it could also pose operational challenges for DNOs to implement and report on, and for us to administer and instruct on. We are keen to get views on operational impacts, and any challenges or opportunities respondents may see with redefining, and potentially having more, connection types.

4.22 Whichever of the above options we choose to proceed with, at some level the approach we take to measuring and incentivising performance will be determined by the size of the connection. To put it simply, there is a higher volume of smaller connections, and these are generally more straightforward and quicker to install, while larger connections are fewer in number and can be more complex. So as a starting point, we propose to distinguish between the incentives we apply for smaller connections from those we apply to larger connections.

Incentive for smaller connections, including LCTs

4.23 In RIIO-ED2, smaller connections are incentivised through the 'minor connections' incentive. The current 'minor connections' incentive metrics of 'Time to Quote' and 'Time to Connect' have generally shown improvements year on year. However, with the expected increase in the number of connections

required and the focus to better deliver on customer needs as more customers engage with the connections process, we think further improvements are needed.

4.24 In addition, only quoted works are included in the minor connections incentive, meaning that in most cases, a customer who wants to install an LCT, such as a heat pump, would not be captured within the incentive.[17] This is because a brand new connection to the network is not actually required, as the LCT is being installed via an existing connection. However, enabling works to the existing connection, such as fuse and cut-out upgrades and reactive unlooping, may need to be undertaken before the installation can be made. We see this as an important area to address, and in ED3 we want to speed up the process of LCT installation including associated enabling works. Any incentive introduced to deliver reactive unlooping would sit alongside the proposed proactive unlooping programme (as described in Chapter 3).

4.25 The NIC Electricity Distribution Networks study recommended that the process for domestic customers to adopt LCTs, such as heat pumps and EV charge points, is made as simple as possible, allowing households to apply for more than one LCT in a single application. Many of their recommendations relate to introducing minimum standards for DNOs, including agreed connection guidance, indicative pricing and connection timescales for all customers, and common digitised connection documents. We have considered these recommendations when developing our proposals and the specifics will also be picked up in the ongoing end-to-end connections review (See Chapter 9 - National Infrastructure Commission Recommendations).

4.26 Through this consultation we are proposing to bring small-scale LCT connections and enabling works (such as fuse upgrades, cut-out upgrades and reactive unlooping), into scope of the smaller connections incentive framework, with the potential to set varying working day targets for different connection activities. We also propose to move the current 'Connections - Customer Satisfaction Survey' which currently sits within the Broad Measure of Customer Service into this incentive for smaller connections.[18] This will mean that our package of

[17] Activities in scope are those where a formal quotation has been issued as laid out in Annex G of the Regulatory Instructions and Guidance - Para 2.105, p.26 Annex G RIGS: "Requests for additional load are not included in the incentive where the work involved relates to: fuse changes to existing connections with no formal connection offer being issued; service upgrades (changing services, cut-outs or unlooping) for existing distribution connections with no formal connection offer being issued; quotations issued for works not relating to the DNO's asset (eg installation of
meter tails for the provision of a new meter)."
[18] See Paragraph 4.78 for more information on proposals on the BMCS.

incentives for customers in this category will cover both the time it takes to get a connection and the quality of the customer experience throughout that process.

4.27 We are proposing to retain the core elements of the existing minor connections incentive, that is retaining incentives on the time it takes to issue a quote and connect. These will be supplemented by an incentive on service quality performance as measured through a customer satisfaction survey. Depending on how we choose to categorise customers (see paragraphs 4.12-4.22 above), targets and incentives may be applied separately to different categories of customers that sit under this incentive.

4.28 However, for reasons set out above, bringing customers seeking to install an LCT that are not requesting a new connection into this category, may require an additional adjustment.

4.29 We are proposing that as well as measuring 'Time to Quote' and 'Time to Connect', we could additionally target and incentivise performance against the time it takes to approve an LCT installation for these customers.

4.30 This incentive would be for LCTs and their associated enabling works. It would not include, for example, connections such as a new build with solar PV and battery, as this does not just relate to the LCT and would likely sit within another category under the smaller connections incentive, ie one requesting a new connection to be quoted for and installed.

4.31 Under this incentive, different targets could be set for LCT connections that did and did not require enabling works. For example, those LCT connections that required no enabling works could be measured against 'Time to Approve' and this should encourage DNOs to develop auto-approval processes.

4.32 As more LCTs connect to the distribution network, the rate of auto-approvals will become an important indicator of DNO performance and the quality of the data they hold. This would also help with simplifying the connections process of LCTs, as per the NIC recommendation (see Chapter 9).

4.33 For those LCT connections requiring enabling works, this could be measured against a 'Time to Quote' and 'Time to Connect' metric. The 'Time to Quote' metric would be included to ensure DNOs reach out to the customer quickly, to

inform them of the works required, with the 'Time to Connect' metric measuring the time from acceptance of the work (the quote) to the time of connection.[19]

4.34 This option was proposed by DNOs during our working groups and specified as being for domestic LCT requests only, although we think this should apply to both domestic and non-domestic LCTs. The redefining of connection types may affect this non-domestic and domestic divide, and make this point void, but we are keen to hear views from respondents on this.

4.35 We expect this would be a penalty and reward incentive, although we are keen to ensure customers know what to expect from the connections process before they begin, so reputational metrics may also be considered where we don't have the data to set a target.

4.36 Better visibility over connections and the LV network is required as we electrify and move to a dynamic system, where load shifting, small-scale generation, and consumer-led flexibility is commonplace. This is recognised by government's ongoing work on 'Asset Visibility' and the RIIO-ED2 requirement for improved LV network visibility.[20] We will be looking for more data from licensees and at greater granularity, for example what types of LCTs are connecting, so we can report on our statutory duties, such as our net zero duty and our growth duty, and demonstrate smaller connections delivering on national targets and priorities.

4.37 With this in mind, we are looking to set varying working day targets for different connection activities. These targets will be reflective of the complexity of work required and potentially if connections are requested under specific circumstances (for example if a customer is installing a heat pump because their boiler no longer works). We will also consider whether it is appropriate to have 'standstill' periods (issues that may be largely outside of the DNO's control, such as consent from neighbours to access land, or local authority permits for roadworks) and if the customer requests a later connection date.

4.38 Our intention is that simpler jobs, such as fuse upgrades, will have a shorter timeframe than more complex jobs, such as three-phase upgrades. This is in line with DESNZ's thinking as expressed through our working groups.

4.39 The time-based principles of the existing 'Time to Connect' and 'Time to Quote' metrics will carry over (alongside the possible addition of a new 'Time to

[19] The 'Time to Quote' metric would then include quotable and non-quotable works. Further work is required to explore how this could work in practice.
[20] Improving the visibility of distributed energy assets - GOV.UK

Approve' metric), with targets and penalties set against minimum standards and/or service commitments. We anticipate rewards should only apply to performance that significantly exceeds any minimum regulatory requirements on licensees.

4.40 GSOPs, including the existing Connection GSOPs, and other forms of financial recourse for smaller connection customers are being considered in the end-to-end connections review and may have an interaction with any targets set.

4.41 More data gathering on connection activities does mean more administration and reporting, and whilst we see this as necessary, we are mindful to not over-engineer this incentive, and that it remains operational and focused on delivering the two key outcomes we want to see: timely connections and customers receiving a good quality of service. For all aspects of the smaller connections incentive, we are seeking stakeholder views and suggestions on if this can be done in a streamlined manner to reduce burden whilst producing the outcome we want for connection customers. (See Question 21 in the Connections section).

4.42 We are keen to get views from all stakeholders, including on whether we should incentivise LCT connections and if so, options or approaches.

Incentive for larger connections

4.43 This incentive is currently defined as 'major connections' in RIIO-ED2. Again, the local connection market segments which make up this incentive would need to be reviewed following any change to the existing connection types, as laid out in the previous section 'Redefining Connection Types'.

4.44 The Major Connections Incentive (MCI) aims to drive better quality service from DNOs against the principles and baseline expectations set out in the Major Connections Governance Document.[21] It considers DNO performance in both contestable and non-contestable connection activities in competitive and non-competitive Relevant Market Segments (RMS) through the Major Connections Customer Satisfaction Survey (MCCSS) and the Major Connections Annual Report (MCAR).

- The MCCSS – a measure of customer satisfaction and is applied by both a reputational and a financial incentive, with the reputational incentive being conducted in RMS where effective competition has been demonstrated, and

[21] Major Connections Governance Document, pg.26 - 29

the financial incentive being conducted in RMS where no effective competition has been demonstrated.

- The MCAR – an annual report published by DNOs that covers all RMS under the MCI scope. The MCAR includes reputational reporting on timeliness of connections (Time to Quote (TTQ) and Time to Connect (TTC)), performance in relation to the MCCSS and delivery of the licensee's major connection strategies.

Relevant Market Segments - explained: Within 'major connections' there are 9 relevant market segments (RMS) representing different types of customers. Unlike minor connections, there is the potential for competition to exist in these market segments. This competition comes from Independent Connection Providers (ICPs) or Independent Distribution Network Operators (IDNOs). The work that can be carried out by either the DNO or a competitor is referred to as 'contestable work'. For all connections however there are some activities that only the DNO can carry out, this is referred to as 'non-contestable' work. The level of competition that exists in each market segment varies by DNO. Where we have seen evidence of effective competition (competitive market segments) we generally apply less regulatory controls as competition should drive service improvements, with customers able to choose to whichever connection provider offers the best service. Where we have not seen effective competition develop (non-competitive market segments) we generally apply tighter controls with penalties where expected service levels are not met.

4.45 In the MCCSS, DNO performance has overall been positive, with increasing satisfaction scores and improved stakeholder engagement. However, there is room for improvement in the consistency of service across DNOs. In the first year of RIIO-ED2, we observed that all DNOs but one met the target level set for the MCCSS. However, we consider this is not entirely reflective of the state of services provided or levels of customer satisfaction experienced by customers. For example, in response to the end-to-end connections review, stakeholders have highlighted concerns around connection delays, and a lack of appropriate engagement and proactivity from DNOs to support the customer through the process, specifically in the post-offer negotiation stage. This identifies a possible failing in the current incentive.

4.46 Unlike the RIIO-ED2 minor connections incentive, there is no financial incentive on DNOs for the TTQ or TTC major connection customers. However, via the MCAR, DNOs report on a reputational basis against the same metrics and these appear to have been drivers of improved DNO performance. The TTC metric

incentivises DNOs to be more ambitious with their connection plans and encourages them to develop strategies that will further improve standards. The metric also improves transparency, as DNOs must report on their performance against clearly benchmarked targets, making comparison between DNOs easier. However, as it is only reputational there may be merit in strengthening the incentive to deliver even better performance.

4.47 Most respondents expressed support for the introduction of a form of penalty/ reward mechanism to incentivise networks to prioritise timely delivery and quality of connection offers. As a result, previous examples of penalty/incentive mechanisms within RIIO-ED2 and RIIO-ET2 have been examined. Other views related to introducing a customer compensation mechanism, as well as minimum standards licence conditions and/or service level agreements (SLAs) to standardise service across DNO regions. As these points cannot be directly addressed by price controls, they will be discussed in a separate response to the end-to-end review.

4.48 Some stakeholders have also proposed changes to the MCCSS to combat the key issues set out above. With several DNOs suggesting that changes to the format of the survey and expanding its scope to cover more segments/ customers could be an effective method of increasing the robustness of the survey and incentivising higher quality service in the process.

4.49 Finally, when developing the proposals for consultation we have also considered the NIC recommendation on the need to strengthen incentives for delivering major connections. The below sets out our proposals on changes to the MCI.

Proposed approach

4.50 We propose largely retaining the existing mechanisms of the MCI (the MCCSS and the MCAR) from RIIO-ED2 for ED3, as it has delivered satisfactory outcomes and provided a valuable channel for customer feedback. However, we consider that the existing elements should be strengthened and/or modified to help achieve strategic objectives through faster connections and further drive excellence in areas where shortcomings have been identified, both through this process and through the end-to-end connections review. Any further outcomes from the end-to-end connections review will continue to inform these proposals for ED3.

4.51 As noted, the market segments under it will be determined following the decision on redefining connection types, as proposed in the 'Redefining Connection Types' section, but we expect larger connections to still consist of

EHV and above works, large generation projects, and any connection that meets the threshold at which a Transmission Impact Assessment is required.

Additions/alterations to the MCCSS

4.52 Customer satisfaction surveys are a tried and tested method of measuring the satisfaction of service. Currently the MCCSS is applicable to licencees in the following ways:

- financially (penalty only) to contestable and non-contestable activities in non-competitive RMS
- reputationally to non-contestable activities in competitive RMS
- Not applicable for contestable activities in competitive RMS.

4.53 We have set out in the section below proposals to change these ODI-R and ODI-F but in this section we discuss the actual MCCSS survey itself.

4.54 We are aware that there are some issues with the participation rate of some of the surveys carried out as part of the MCCSS. We understand that this is in part due to the smaller number of customers that are connecting in certain RMS and due to survey fatigue of those customers who are surveyed multiple times (as they have multiple connections). Additionally, some customers do not currently fall under the scope of the MCCSS (customers in market segments where competition is effective in the market and the primary customer of the DNO is an ICP) and not all stages of the customer journey are covered. This can negatively affect the robustness of the survey and is reflected in the scores received by DNOs.

4.55 Ideas emerging through our stakeholder engagement include altering the MCCSS process depending on the type of customer. For LV customers undertaking one-off transactional work, a short telephone survey was proposed to understand their satisfaction with the service. Some stakeholders did not believe such surveys are appropriate for larger, repeat customers undertaking complex work. Instead, they suggested implementing a lengthier annual survey to reduce survey fatigue. There were also proposals for this to be carried out alongside a panel review (akin to the DSO panel) with an upside to the incentive to encourage DNOs to do more to support major connection customers. While we have reservations with regards to annual surveys for large customers, as opposed to surveying them each time a connection is made, an alternative format, tailored to individual customer needs may encourage greater participation. We also believe more detailed surveys would better cover the entirety of the connections process and customer journey and this could include

additional questions that target specific stages of the customer journey, ie pre-application and post-offer negotiation.

4.56 While further detail relating to the MCCSS design and its questions will be further considered and discussed as we progress towards ED3, we believe that changes should be made to the MCCSS to aid customers to engage with the survey and would result in more impactful feedback. This would in turn increase the robustness of the survey and scores received. It should be noted that the review of connection types may also impact which customers the MCCSS may apply to. We are, however, keen to hear from current major connection customers to understand how to encourage higher MCCSS participation rates, how often repeat customers should be surveyed, and ensure the survey reflects customer sentiments more accurately.

Penalty/ reward mechanism for MCCSS

4.57 We propose amending the type of incentive that is applied to the current MCCSS metric. The mechanism would be applied as follows:

4.58 In competitive RMS:

- Contestable activities - Does not have MCCSS (no change from RIIO-ED2).
- Non-contestable activities - Penalty and reward (reputational only in RIIO-ED2).

4.59 In non-competitive RMS:

- Contestable activities - Penalty-only (no change from RIIO-ED2).
- Non-contestable activities - Penalty and reward (penalty only in RIIO-ED2).

4.60 The below sets out the reasonings for each proposal:

- Competitive RMS – Contestable Activities: we propose no change, as these customers are not surveyed under the MCCSS. This is because there is already competition within this segment and therefore requires no additional intervention.
- Competitive RMS – Non-contestable Activities: we propose changing this from an ODI-R to an ODI-F penalty and reward. As this is for non-contestable activities there is no natural competition and therefore by introducing a financial incentive will further drive DNOs to deliver timely connections and better-quality customer service.
- Non-competitive RMS – contestable activity: we propose no change and for this to remain a penalty-only ODI-F. We propose not to introduce a reward within this segment as, ultimately, we want licensees to continue to take

steps to better enable competition and introducing a reward into this segment would reduce the incentive on DNOs to pursue this.

- Non-competitive RMS – non-contestable activity: we propose including a reward, so that it becomes an ODI-F penalty and reward (the same as that for Competitive RMS – Non-contestable Activities). We think that introducing an upside to the current financial incentive will further drive DNOs to deliver timely connections and better-quality customer service.

4.61 For those segments that we are proposing to include an ODI-F penalty and reward, we do so to encourage DNOs to perform beyond their regulated requirements. This should, in turn, support innovation, proactive investment, and ambitious behaviour, ultimately encouraging faster and more transparent connections and improving the quality of offers and post-offer services provided by DNOs.

4.62 The implementation of the ODI-F mechanism into the competitive RMS and only applying it to non-contestable services is to avoid creating an upside incentive for DNOs that their contestable-activities competitors, ICPs and IDNOs, cannot access. As DNOs are not the sole party offering contestable services, incentivising these would cause an uneven playing field and potentially distort competition in the market. Therefore, we believe there should be no reward or penalty for DNOs offering contestable activities in competitive RMS.

4.63 In the end-to-end connections review responses, DNOs were largely in support of introducing a financial incentive, as they believe it would drive better innovation and proactive behaviour. Connection customers were also in support, arguing that a penalty and reward mechanism would further encourage timely delivery.

4.64 We are open to exploring alternative models that provide the most optimal outcomes for all market participants and competition. We welcome stakeholders' views on the proposals set out here, and if there are other models we can consider.

Introducing a Time to Connect (TTC) metric

4.65 In RIIO-ED2, DNOs are required to report annually against the TTQ and TTC metrics. These are reported as part of the MCAR, which is a reputational ODI. For ED3 we are considering whether we should introduce a financial (reward/penalty) for the TTC metric. This could be implemented in addition to, or instead of, the upside incentive in the MCCSS. In implementing any ODI-F for TTC, we would need to consider which market segments it would be applicable

to. We would retain the current reporting for TTQ, and do not propose an ODI-F for this.

4.66 In introducing an ODI-F for TTC we think this would incentivise DNOs to engage with and connect projects in a timelier manner, delivering better satisfaction and outcomes for customers. It can also act as an incentive for DNOs to use flexibility to bring forward connection dates. However, as noted elsewhere in this document, we do not want DNOs to use flexibility to defer network investment in the long-term.

4.67 In engaging on this proposal, DNOs have flagged that the timeliness of connections is not always the most pressing matter for customers, and the focus of any new financial incentives should instead be on the quality of offers and the process offered to applicants. We are also conscious that for any TTC target we would need to consider how we would account for unavoidable third-party delays, such as obtaining permits, so that DNOs would not be penalised for delays outside of their control.

4.68 We are proposing not to introduce a TTQ ODI-F as there are already rigid timelines set out in the codes and licenses for the specific activities that complement the TTQ stage. Timelines may also be connected to the NESO application windows recently introduced under TMO4+, and so for certain customers the timelines for final quotation may to some extent be outside of the DNO's control.

4.69 TTC, in the current minor connections incentive, serves as an impactful mechanism that encourages licensees to reduce the time it takes to connect smaller customers. The introduction of rewards and penalties for timeliness was also a recommendation in the NIC review, to strengthen the incentives for delivering major connections.

4.70 While we think an ODI-F is likely to support timelier outcomes for larger connections, it needs to be considered alongside other proposals set out in this section which may prove more suited and proportionate to the objectives of this review. We are interested in stakeholders' views on the proposal to introduce an ODI-F for TTC, how this might sit alongside other proposals and whether they think this would support timeliness of connections.

Service Level Agreements/minimum standards

4.71 We are looking at setting SLAs and/or minimum standards, including benchmarks for milestones, through our work on the end-to-end connections review. A proposal which could be taken forward alongside the introduction of

any SLA/minimum standard is to tie the delivery of SLAs/minimum standards to an ODI-F penalty. This mechanism is proposed to be penalty-only in order not to reward DNOs for what already constitutes a regulatory obligation of the licensee. While this is likely to positively impact the quality of service and offers provided, these minimum standards may overlap with the expectations imposed on DNOs via GSOPs and result in network companies having to pay the GSOP payment to the customer in addition to being penalised under the incentive. We are, therefore, keen to hear stakeholder views on the associated risks and impacts of this.

Options considered but not proposed

Introducing flexibility to enable faster connections

4.72 We considered a new specific incentive for the use of flexibility in larger connections. This could either be through DNO-procured flexibility (flexibility services) or through flexible connections.[22] While the introduction of a TTC metric as part of the financial incentive may naturally encourage this, a dedicated incentive could further accelerate connections. Another existing requirement for flexibility is the Technical Limits initiative for accelerated non-firm (flexible) connections.[23]

4.73 As set out in Section 5: DSO Flexibility, we think that flexibility can play an important role in accelerating connections, by helping to speed up connections without needing to wait for the network to be upgraded. However, we see a potential risk that, by using flexibility, and in particular the use of flexible connections under active network management (ANM) schemes, flexibility could be prioritised at the expense of network build, particularly if it is specifically incentivised.

4.74 We therefore think that specifically incentivising the use of flexibility to speed up connections may not be appropriate in the move towards more proactive network reinforcement. When discussed with DNOs, they also believed that a specific incentive on flexibility should not be carved out separately as part of the connections incentive, but instead the focus should be on TTC and allowing DNOs to decide how to speed their connections up. As discussed above, the introduction of a TTC incentive may naturally incentivise the use of flexibility in speeding up connections, as DNOs will use flexible services and/or flexible

[22] A non-firm/ flexible connection means that under certain conditions- such as fault conditions on a specific circuit or in a region- operation of these connections can be controlled by the System Operator to ensure system stability is maintained.
[23] Grid Supply Point Technical Limits for accelerated non-firm connections – Energy Networks Association (ENA)

connections to provide faster connections to customers. We recognise that future developments may prompt questions around the applicability of a flexibility incentive on a broader range of connection types. Therefore, this may need to be revisited considering any decisions made regarding the expansion of connection categories.

System Operator: Transmission Owner (SO:TO) incentive

4.75 Through our working group, a proposal was brought forward for a SO:TO incentive at distribution. The SO:TO was introduced at transmission level in RIIO-T2 to test whether financial incentives could encourage TOs to proactively support NESO in managing the transmission system efficiently. It also aimed to reduce constraint costs and encourage TOs to offer "enhanced services", shifting the system to more dynamic, collaborative grid management.

4.76 The proposal was to introduce a similar mechanism for DNOs to create additional capacity through means other than physical reinforcement, such as installing monitoring equipment or changing protection settings. The aim of which would be to enable earlier connection dates. The incentive was proposed to remain reward-only to encourage innovation.

4.77 DNOs are expected to dynamically manage the network as part of their role as DSOs. This includes the use of flexibility services, enhanced operational visibility, and coordination with NESO. Similarly to the flexibility aspect, our view is that the proposals we have described above should motivate DNOs to explore innovative ways to speed up the process, and that therefore no additional connections incentive is required. However, there is potential for this type of incentive to be used to support and encourage network balancing. This is discussed further in the DSO Voltage Management Section.

Consultation questions

Redefining connection types

Q18. Do you agree that the connection types of 'minor' and 'major' should be redefined? If so, do you have thoughts on how they should be redefined, via voltage works required, customer type, a blend of the two, or a split not considered here?

Q19. Do you have views or suggestions on how redefining connection types, with potentially more types being introduced, will be able to be operationalised at this level of granularity? See Paragraph 4.18.

Incentives for smaller connections

Q20. Do you agree with our proposal for LCT connections and their associated enabling works to be brought into the connections scope and incentivised, with the potential to set varying working day targets for different connection activities? Why?

Q21. Do you agree the incentive should be reward and penalty (as per the RIIO-ED2 minor connections incentive)? Why?

Q22. Do you think any LCT connection incentive should be for domestic, non-domestic, or both? Why?

Q23. Notwithstanding the proposals we have set out under 'Redefining Connections Types', do you have alternative proposals for what DNOs need to do to speed up connection times for LCTs, and what incentives (other than those we have discussed in this chapter), obligations and/or funding may be required to support this?

Incentive for larger connections

Q24. Do you agree changes should be made to the MCCSS to increase participation and better reflect the customer journey? If so, what changes do you think are required and why?

Q25. Do you agree with the proposals we have set out for changing the incentives for the RMS for the MCCSS for the purposes of encouraging faster and more transparent connections and improving the quality of offers and post-offer services provided by DNOs? If not, what other proposals do you suggest?

Q26. Do you think we should financially incentivise the TTC metric in order to accelerate connections and achieve the right outcomes? Are there other changes we should consider? How would any change sit alongside the current incentives?

Q27. Do you see value in incentivising SLAs/minimum standards? How should it be done and are there any associated risks or impacts?

Q28. Do you agree that we should not pursue the options we have set out that we would not consider further, ie incentivising flexibility and the SO:TO incentive? Why?

Q29. Notwithstanding the proposals we have set out under 'Redefining Connection Types', do you have alternative proposals for how to incentivise timely connections and improve the quality of service for larger connections?

Broad Measure of Customer Service

Background

4.78 DNOs need to deliver high quality services that meet customers' needs. With reliance on the electricity network forecast to increase during the ED3 period, ensuring DNOs continue to improve the quality of their customer service and

satisfaction of their customers is key. That is why in our Framework Decision we said we will retain the BMCS in ED3.

4.79 We recognise the operational landscape is rapidly evolving, particularly in relation to the number of Low Carbon Technologies (LCT) we expect to be connected to the network in the future. In line with the NIC recommendations, we think elements of the BMCS should be amended to ensure it can still deliver for this changing landscape and the changing expectations of consumers.

4.80 Below we set out our proposals for the BMCS in ED3. These are mainly focused on changes to the customer satisfaction survey to better monitor satisfaction amongst different types of customers as well as a proposal to move the 'connections survey' (including for those customers connecting LCTs) out of BMCS.

Proposed approach

4.81 The BMCS was first introduced in RIIO-ED1, with some adjustments made to the scope and the introduction of new reporting metrics for RIIO-ED2. BMCS consists of two parts:

- Customer Satisfaction Survey (CSS): where DNOs are incentivised to continue to improve the quality of customer service; and
- Complaints Metric (CM): where DNOs are incentivised to manage customer complaints efficiently and resolve them satisfactorily.

4.82 Performance on both the CSS and the CM have improved since their introduction, demonstrating the effectiveness of the incentive in driving improvements to customer service.

Customer Satisfaction Survey

4.83 A key area of focus in the Electricity Distribution Study carried out by the National Infrastructure Commission (NIC) was around ensuring high quality customer service in relation to connections, including LCTs. The current CSS has a specific 'Connections survey', which is weighted at 50% of the CSS incentive. Generally, this survey does not include those customers who are installing LCTs or require LV enabling works to support an LCT installation, as in most cases they require an upgrade to an existing connection, rather than a new connection. These customers are currently surveyed under the 'General Enquires' survey.

4.84 With the growing emphasis on ensuring a positive connection journey for customers (be that LCT connections, LV enabling works or other quotable connections), we think that all elements of smaller connections should be

considered under one incentive banner. We therefore propose to include the 'connections survey', including those elements currently captured in the 'general enquiries survey' but which relate to LCT connections, within the incentive for smaller connections, rather than in the CCS element of the BMCS incentive. Doing this will mirror the current RIIO-ED2 MCI, where the major connections CSS forms part of that overall incentive. See Incentive for smaller connections, including LCTs on page 51 for more information on this.

4.85 We propose the following elements currently captured under the 'General Enquiries' survey be moved to the new smaller connections incentive CSS:[24]

- small and multiple SSEG (small scale embedded generation) work (non-quotable) for existing connections (eg installation of solar panels etc.);
- installing a low carbon technology at your residence; and
- physical disconnections (disconnecting a premises from the power network).

4.86 By removing the 'connections survey' from the BMCS CSS part we then propose to rebalance and refocus the remaining CSS surveys - these being 'Interruptions survey' and 'General Enquiries survey'.

4.87 We are currently considering whether there is benefit in separating out the surveys and apply different weightings to give greater focus on the experience of different customer types. Our current thinking is to split the existing two surveys as follows:

- planned interruptions;
    - Priority Services Register (PSR) and Non PSR split.
- unplanned interruptions;
    - PSR and Non PSR split.
- general enquiries (excluding the elements noted in Paragraph 4.85).

4.88 In line with our proposals for amending the PSR reach metric in the Consumer Vulnerability Incentive (see section: PSR Reach) we think there is a need to more qualitatively measure the satisfaction of PSR customers. Splitting out the surveys into PSR and Non PSR responses, and measuring and incentivising these scores separately, will ensure that DNOs are not only maintaining their PSR but also ensuring that the most vulnerable customers receive the service they need at a critical time. We currently consider that this would apply to the planned and unplanned interruptions surveys, but not for the 'General Enquiries' survey, as

[24] For all services covered under the 'General Enquiries' survey, see RIIO-ED2 regulatory instructions and guidance: Annex H

we do not think this type of service would necessarily need to be different for PSR customers.

4.89 We want to ensure that the high levels of customer satisfaction that have previously been driven by the BMCS incentive are maintained and that targets continue to be stretching and encourage outstanding performance. Meanwhile we think that companies that are failing to meet the targets should be appropriately penalised. We therefore propose to maintain a penalty and reward incentive for the CSS element of the BMCS.

4.90 Finally, we think there is a need to broaden survey channels. Currently, all customer satisfaction surveys are conducted by telephone. We think that this is no longer the only method by which surveys should be carried out and the survey channel should be broadened to reflect consumers' changing communication needs.

4.91 During the development of RIIO-ED2, DNOs undertook a trial to assess how changes to the survey channel affect the survey scores given by customers. At the time, the trial showed that very few customers chose to use the new channels to submit their survey results and, in the cases where they did, the scores provided were more likely to be skewed to the extreme ends of the score range. We therefore we did not make any changes to the survey channels for RIIO-ED2. However, we believe there is merit in reviewing this decision and have therefore asked the DNOs to re-run this trial.

Complaints metric

4.92 Overall, we believe the complaints metric has been working well and there have been encouraging improvements since its introduction in RIIO-ED1. We therefore propose to retain the complaints metric as a penalty-only incentive and to leave the weightings applied to each category unchanged.

4.93 We will continue to monitor DNO performance against the target score and will update this as we progress with the price control process.

4.94 We considered whether we should introduce a metric on the volume of complaints but we are proposing not to do so (see 'Options considered but not proposed' for our rationale on this decision).

Options considered but not proposed

4.95 Feedback provided during the ED3 Framework Consultation suggested that the BMCS did not adequately drive DNOs to reduce complaints or improve how complainants are treated. These respondents suggested it should be adapted to

record the quality of how the complaint is handled or the volume of complaints over a set period.

Customer Satisfaction Survey (CSS)

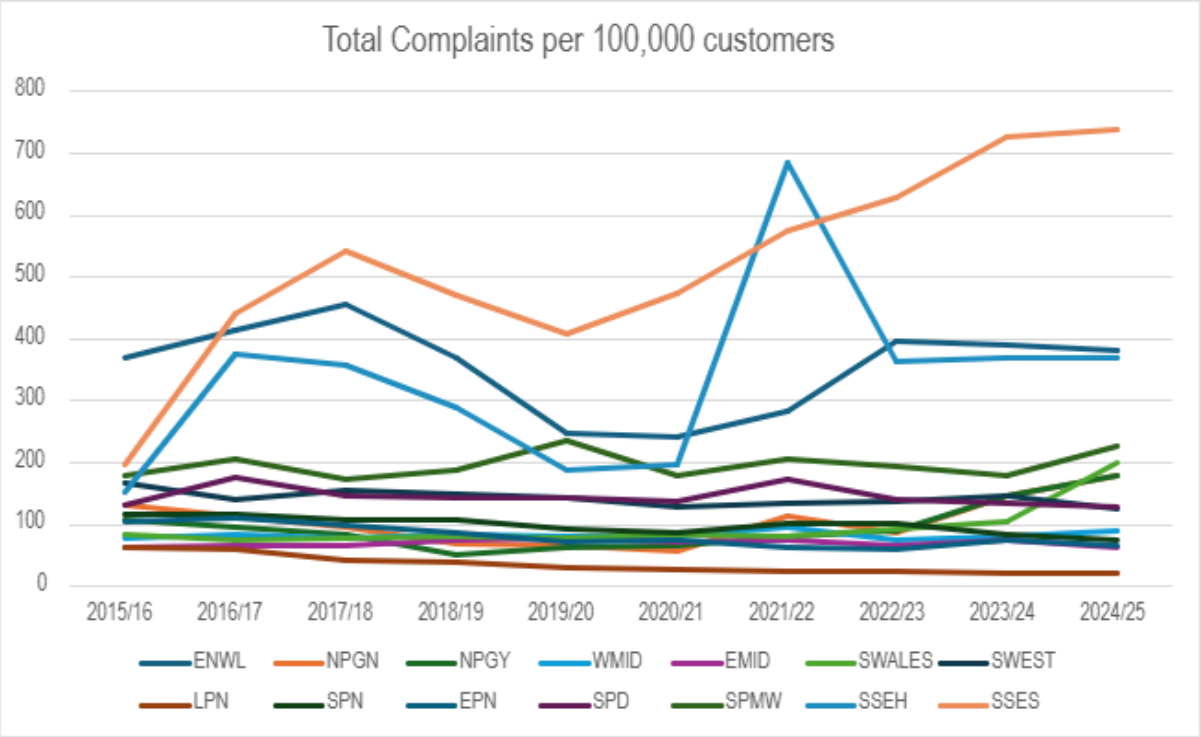
4.96 We have considered the merits of introducing a specific 'complaints survey' as part of the CSS part of the BMCS, with the aim of measuring the quality of complaint handling. We have set out below the reasons why we do not consider this is necessary:

- Customers who had submitted complaints could already be surveyed under the relevant areas in the CSS, and therefore their satisfaction of the initial enquiry (and subsequently how the complaint had been handled) would be captured through this survey. By introducing a new specific survey, there could be an element of double counting the responses.
- Having a specific complaints survey could cause confusion for the customer. As there are instances where the DNO may class something as a complaint (as there was an 'expression of dissatisfaction') but the customer may not have specifically specified it as a complaint.
- If a customer was not happy with how their complaint was handled, they would raise another complaint, and in extreme circumstances that complaint would be passed to the energy Ombudsman. Both these escalations are already monitored through the 'complaints metric'.

Complaints metric

4.97 We have also considered the proposal to measure the volume of complaints over a set period. Figure 4 below sets out the number of complaints per license area per 100,000 customers.

Figure 4: Number of complaints per DNO license area, measured per 100,000 customers



4.98 Figure 4 demonstrates the variation in the number of complaints reported by DNOs. This could be due to the different volumes of complaints received per DNO, but it could also be due to a difference in how each DNO defines what constitutes a "complaint".[25] In the working group we discussed the definition of a complaint and it was apparent that some DNOs took a wider interpretation than others and this has highlighted potential issues with applying an incentive on complaint volumes: We have concluded the following as reasons not to propose a measure on the volume of complaints:

- The wide range of interpretations on the definition makes consistency very difficult. However, a meaningful metric on numbers would require a consistent interpretation.
- While tightening the definition could overcome the above challenge, we note that some stakeholders raised the concern that doing so would result in certain matters currently being treated as a complaint (by at least some DNOs) no longer being captured by a new, tighter definition.
- A metric on complaint numbers may have an unintended consequence of discouraging the reporting of complaints.

[25] The definition of complaint is as specified in Part 1 Paragraph 2 of: The Gas and Electricity (Consumer Complaints Handling Standards) Regulations 2008

- DNOs are already incentivised to reduce complaint volumes, as doing so reduces the level of resource required to handle complaint, and reduces the risk of being exposed to a penalty that would be associated with high volumes of unresolved or repeat complaints, or escalations to the Energy Ombudsman.

4.99 Based on the above, we do not think it is appropriate to introduce a specific metric and incentive on complaint volumes. Ultimately, how the complaint is handled is most important. We think this is already sufficiently incentivised through the BMCS.

4.100 However, we do think there is merit in those DNOs who have high volumes of complaints to set out in their business plan how they intend to reduce and tackle the number of complaints they receive.

Consultation questions

Q30. Do you agree with removing the 'Connections Survey' and the LCT related elements from the 'General Enquiries Survey' from the CSS part of the BMCS and putting this into the new smaller connections incentive? Why?

Q31. Do you agree that the remaining surveys under the BMCS CSS then be split between 'Planned Interruptions', 'Unplanned Interruptions' and 'General Enquiries'? Why?

Q32. Do you agree with the proposal to also report on and incentivise PSR vs non-PSR survey results for each interruptions survey? Why?

Q33. Do you have a view on what weightings should be applied to the different surveys now proposed for the CSS part of the BMCS? Why?

Q34. Do you agree the CSS part of the BMCS should remain a penalty and reward incentive? Why?

Q35. Do you agree with our proposals to retain the complaints metric as a penalty-only incentive and to leave the weightings applied to each category unchanged? Why?

Q36. Do you agree with our decision not to take forward the proposals set out in 'options considered but not proposed'? Why?

Consumer vulnerability

Background

4.101 To ensure DNOs deliver the key vulnerability priorities to protect those who are most at risk in RIIO-ED2 we introduced the Customer Vulnerability Incentive (CVI) as an ODI-F and the Annual Vulnerability Report (AVR) as an ODI-R. These were introduced to provide an incentive for DNOs to develop vulnerability

strategies, provide additional services to vulnerable customers and ensure accountability for delivering vulnerability strategies and baseline expectations[26].

4.102 Supporting vulnerable customers remains a priority in ED3 and in the Framework Decision,[27] we said that we would continue to incentivise positive outcomes for vulnerable electricity customers, and that we will further develop the mechanics and targets through the sector specific methodology phase of the price control setting process.

4.103 The CVI consists of three main metrics:

- **Priority Services Register (PSR) reach** - which measures the percentage of eligible households on the DNOs' PSRs.
- **Social Value metric** - which assesses the social value of services DNOs deliver to domestic customers in vulnerable situations. The services are split into Fuel Poverty Services (FPS) delivered and low carbon transition services delivered.
- **Customer Satisfaction Survey metric** - which assesses the customer satisfaction with the FPS and low carbon transition services delivered by the DNOs.

4.104 The AVR is an annual report that holds DNOs accountable for delivering their strategies and baseline expectations within the period. It requires DNOs to report on annual progress against CVI performance metric targets, their regularly reported evidence (RRE), how they have used the Social Value Framework, progress they made on specific vulnerability strategy commitments, and measures they have in place to support domestic customers in vulnerable situations over the winter period in the event of loss of supply.

4.105 This CVI incentive is in the early stages of delivery, with the first round of reporting (year two of operation) being submitted in July 2025. We therefore have limited data on the social value and customer satisfaction metric and so are not minded proposing any substantial changes at this stage to those metrics. However, based on voluntary reporting and formal reporting to date, as well as through stakeholder engagement, we do have evidence that shows DNOs have limited scope for improvement against the targets for the PSR Reach metric. In this consultation we are therefore proposing changes to this.

[26] Further details on the incentive can be found in the RIIO-ED2 Final Determinations Core Methodology Document and the RIIO-ED2 Consumer Vulnerability Guidance Document.
[27] Framework Decision

4.106 As both the CVI and the AVR were only introduced in RIIO-ED2, we want to hear a range of views through this consultation, to better understand how these incentives are working. We would also like to understand any lessons learnt and experiences developed in the first two years of operation.

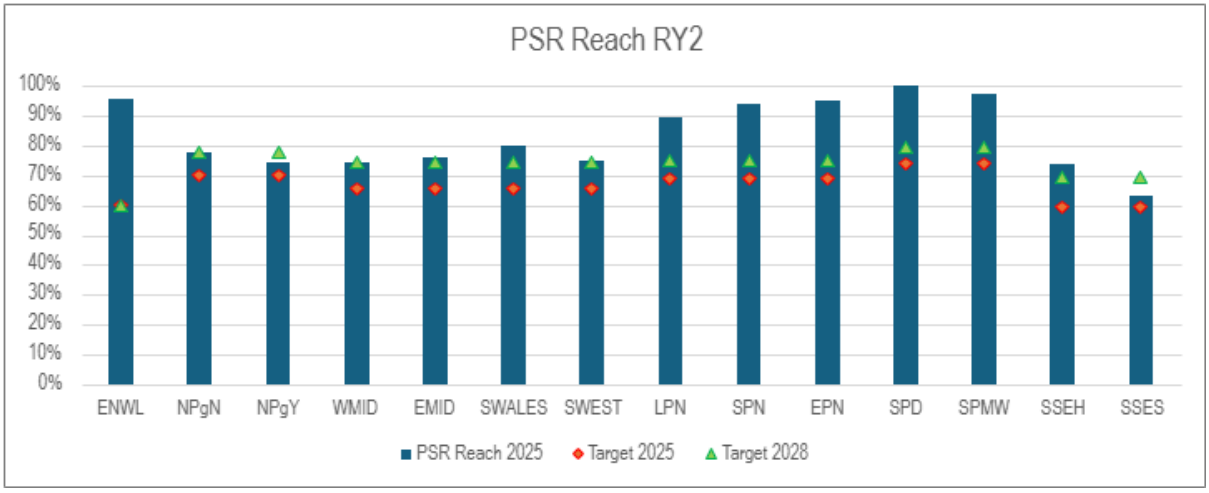
Proposed approach

Consumer Vulnerability Incentive (CVI)

PSR Reach

4.107 The PSR Reach Metric in RIIO-ED2 accounts for 40% of the overall incentive and is the biggest metric within CVI. DNOs are incentivised to register eligible customers to its PSR[28] and maintain a PSR (where the DNO is expected to maintain best practice in identifying new households and attempted to cleanse PSR customer data at least every 24 months).

Figure 5: Licensee performance against PSR Reach year two and year five targets



4.108 As shown in Figure 5, the Year two PSR Reach data shows that DNOs are performing well against their targets. All licence areas have reached their Year two targets (RY2), and some have already gone above their targets for Year five (RY5), as well as one reporting a 100% reach rate. This data shows DNOs are close to reaching a performance ceiling within this metric.

4.109 This early data demonstrates good progress by DNOs on managing, promoting and maintaining a PSR, and through RIIO-ED2 DNOs will continue to be incentivised to improve upon and maintain this. For ED3, we continue to see it

[28] PSR Reach is calculated using a common methodology, where the percentage is calculated by taking the total number of households registered in the licensee's PSR out of the total number of households in the licensee's Distribution Services Area that are eligible to be registered in accordance with the criteria set out in the guidance.

important for DNOs to continue their efforts to identify and sign up vulnerable customers, where they are eligible, and ensure their PSRs are maintained and kept up to date (including a bi-annual data cleanse). As DNOs have already set up processes to maintain and update their PSR and in the most part are already meeting their RY5 targets, we query whether DNOs should be financially incentivised to achieve their PSR reach in ED3. We are therefore considering whether maintaining the PSR, and ensuring as many eligible households are included, should instead become a reputational incentive, and potentially be monitored through the AVR.

4.110 Other options for the PSR reach metric could be to continue to have it as a reward/penalty incentive but reduce the weighting (which is current at 40% of the CVI) or to change it to a penalty only incentive. We welcome views on this through our consultation.

4.111 If we were to continue with the PSR reach metric in ED3, we would want DNOs to provide their forecasted PSR numbers for ED3 using 2021 census data and by continuing to follow the common methodology for calculating and reporting PSR Reach. In RIIO-ED2 we recognised that there was no common PSR reach starting point across the DNOs and therefore we set individual targets based on the DNO's own forecasts. However, now companies have focused on increasing their PSR reach, and as the metric is reported as a percentage of eligible households, we think there could be merit in having a common percentage target of PSR reach across the DNOs. We therefore welcome views on whether we should make the PSR Reach targets common across DNOs.

4.112 Finally, registering customers eligible for the PSR is a fundamental aspect of DNOs support for customers in vulnerable situations and is a prerequisite to ensuring DNOs then provide effective support to vulnerable customers, particularly during a loss of supply.

4.113 As a result, for ED3, we think it is prudent to introduce a qualitative metric to measure and incentivise DNOs to provide good customer service to those on the PSR. As set out in the BMCS section, we are proposing to split out the CSS surveys into PSR and Non PSR responses, and measure and report these scores separately, as part of the BMCS incentive. By doing this, we think this will ensure that DNOs are not only maintaining their PSR but also ensuring that those customers, who are most vulnerable, receive the service they need.

Social value metric

4.114 The social value metric was introduced in RIIO-ED2 to incentivise DNOs to deliver FPS and low carbon transition services to support those consumers most in need. As this incentive is new, and we have only received the first round of reporting on it, we are not consulting on any specific changes through this SSMC but are asking for more general feedback on how the incentive is working and whether we should make any changes.

4.115 The value of the services delivered (social value) is measured by using the common Social Value Framework (SVF) and ensures that DNOs calculate the Net Present Value (NPV) in a comparable and consistent way. The methodology calculates the wider social benefits delivered through the services provided as a Social Return on Investment (SROI). This methodology is used more widely, for example through the Vulnerability and Carbon Monoxide Allowance (VCMA) in Gas Distribution. We believe the core methodology for calculating wider value delivered though these metrics has merit and should be continued in ED3. However, early anecdotal feedback has suggested some changes could be beneficial for ED3, to optimise operational delivery and to ensure DNOs are delivering services that are effectively meeting customer's needs. We welcome views on how the SVF and SROI methodology could potentially be evolved for ED3.

4.116 In engaging with stakeholders, we have had some early feedback on some additional areas that could change. Some DNOs suggested combining the fuel poverty and low carbon transition services into one but retaining a minimum requirement for low carbon transition services to ensure delivery. We have heard anecdotally that the delivery of the low carbon transition services has been challenging and to further enable delivery of these services, some DNOs suggested expanding the scope of the service to include other areas, eg digital skills and scam awareness. We would like to understand this further, and whether stakeholders think the current scope and focus of the two services are still targeting the right areas.

4.117 Finally, in RIIO-ED2, companies were incentivised to present ambitious plans and strategies for vulnerable customers, and the targets for the social value of services provided metric were set based on the individual targets proposed by the companies in their vulnerability strategies. This meant bespoke targets were set for each company. We believe ambitious targets should continue in ED3, but we want to explore the option of making the targets common across all DNOs, so that customers, no matter where they live, can expect the same service. We

would like to hear views on whether we should set common targets for DNOs in this area.

4.118 Notwithstanding the above possible changes, we think the SVF and SROI methodology could be used in the price control more widely eg in playing a role in any new Consumer Value Framework (see Paragraphs 4.200 to 4.203 for more details on this).

Customer Satisfaction Survey

4.119 The Customer Satisfaction Survey (CSS) more generally is tried and tested through several other incentives, eg through the Broad Measure of Customer Service and the MCI etc. A specific CSS metric was included under CVI in RIIO-ED2 to measure the satisfaction of the services provided by DNOs for FPS and low carbon transition. From the limited data we have received to date, we understand that DNOs have struggled to receive responses to these surveys. This may be because this is a new incentive and there may be a delay in getting the schemes properly up and running, but we would like to understand the reasons behind this, and whether the survey is appropriate and fit for purpose.

Annual Vulnerability Report (AVR)

4.120 We think to date the AVR has been useful in ensuring DNOs are held accountable on a yearly basis for implementing their vulnerability strategy commitments and meeting the vulnerability baseline expectations. However, we would like to hear from stakeholders on whether they agree and if this ODI-R should be carried forward for ED3.

Consultation questions

Q37. What is your view on the PSR Reach metric and whether this should form part of the AVR as a reputational incentive? If we were to continue this metric as a financial incentive, do you think it should continue as a reward/penalty or penalty only and should we change the weighting?

Q38. What are your views on the Social Value metric and the CSS elements of the CVI incentive. Are there any areas you think we should amend or adapt for ED3?

Q39. Do you think the targets for the CVI metrics should be made common across DNOs? Why?

Q40. Do you think the AVR should be carried forward as an ODI-R to ED3, and why? If it is carried forward, are there any changes you think should be made to the structure and content?

Energy efficiency

Background

4.121 As demand for electricity increases, we need to ensure we are not unduly wasting this valuable resource and therefore need to minimise the amount of electricity that escapes unused from the distribution system, including from customers' properties. Every kWh saved through ensuring buildings are energy efficient helps to reduce the costs for consumers, lessens the environmental impact and increases energy security. In our Framework Consultation we were interested in stakeholders' views on whether DNOs should play a greater role in supporting the rollout of energy efficiency measures.

4.122 While stakeholder views were mixed, and there were concerns raised around direct delivery of measures, most stakeholders agreed that there could be value in DNOs playing a greater role in supporting the rollout of energy efficiency measures. Most stakeholders supported the option of DNOs playing some form of 'coordination role' in organising retrofit work between installers, households and local authorities

4.123 Views differed on what this should look like in practice, though there were repeated references to DNOs making the network and household data they hold more available to scheme providers with the goal of streamlining the delivery of schemes such as the Energy Company Obligation (ECO). Several stakeholders also argued in favour of DNOs working in partnership with local and regional actors, such as local authorities and housing associations, drawing on their physical presence in their network areas to enable a more area-based focus.

4.124 As the system moves towards a more planned mode of operation with the creation of NESO and delivery of RESPs, Strategic Spatial Energy Plans (SSEP) and Centralised Strategic Network Plans (CSNP), and with consensus growing around the need for a more regional approach to heat decarbonisation in particular, if the UK is to meet its carbon budgets, we believe this is the right moment to be considering what DNOs' roles should be going forward.

4.125 In our Framework Decision we recognised the value that can be provided to the occupants of the properties that have had energy efficiency measures installed, but also the likely benefit to the network and consumers overall, through a reduction in overall final electricity demand and peak shaving. We stated our expectation that DNOs would build out their capabilities in this area, and that we expect DNOs to play a greater coordination role in ED3. Since publication of our Framework Decision, we have continued to engage with stakeholders and

considered in more detail the likely trajectory of low-carbon technology, including heat pump adoption. Our evolving view is that DNOs have a vested interest in this rapid transition being more planned and coordinated, rather than developed ad hoc. We think that with DNOs playing a more significant role, this will make the process more efficient and lower cost.

Proposed approach

4.126 The period covering ED3 will, under all robust forecasts, see a significant transition from fossil fuel heating to electric heating technologies (predominantly through the installation of heat pumps), as well as the continued uptake of domestic solar PV, batteries, domestic EV charge points and other technologies. For this transition to be effective and low cost, with wider network benefits maximised, we think that this roll-out should be carried out in a more planned and co-ordinated way.

4.127 DNOs already hold useful network and household data and have existing relationships with local stakeholders that will only be strengthened through the remainder of RIIO-ED2 and the RESP process. DNOs also have a responsibility to manage their network appropriately and, although at this time may have a more limited relationship with consumers, we think that the switch to electrification and the introduction of RESP will require a step change in the relationship the DNOs have with consumers. DNOs will likely need to develop an even greater understanding of the needs of their current and future consumers as their electricity use changes. Having this information will enable DNOs to better plan and deliver the networks needed in a timely and effective manner and allow existing and newly upgraded network capacity to be utilised to a greater extent than the counterfactual demand-led approach.

4.128 We are therefore exploring the possibility for DNOs to play a substantial role in ensuring the effective delivery of energy efficiency and low carbon measures (such as heat pumps, solar PVs and batteries) where there would be a network benefit. If DNOs were to take on this role we envisage it would be done in an integrated way with a network upgrade programme, thus maximising the benefits of a coordinated, area-based approach. An approach we have previously described as 'enhanced coordination'. We recognise this is a significant change in the role of the DNOs and that it is important we hear from a range of stakeholders as we develop our thinking and consider how this type of role could be best integrated into ED3. For this reason, we are planning a separate consultation on this topic focused on the role of the DNOs in supporting the roll-out of energy efficiency and low carbon measures. Our aim is to engage

with stakeholders over the coming weeks and publish this consultation in winter 25/26.

4.129 We have begun engaging with DNOs to inform this work. However, we recognise there may be stakeholders wishing to express their views on this topic following this publication and would therefore accept any wider view expressed prior to launching a separate consultation on DNOs role in energy efficiency and low carbon measures.

Consultation question

Q41. Do you have any views on our proposal for DNOs to play a bigger role in the delivery of energy efficiency and low carbon measures?

Environmental framework

Background

4.130 It is essential DNOs act to reduce the impacts that the distribution network and the related business activities have on the environment. The environmental framework in the price control is designed to support the DNOs to develop and implement effective strategies to mitigate these impacts.

4.131 In RIIO-ED2, each DNO established an Environmental Action Plan (EAP) to reduce adverse impacts and contribute positively where opportunities exist. The DNOs also publish an Annual Environmental Report (AER) to track progress and ensure transparency.

4.132 In their 2023/24 AER for RIIO-ED2, DNOs generally report that they have met or exceeded their annual targets in areas such as reducing their Business Carbon Footprint (BCF) and SF_6 leakage.[29] In new areas, like embodied carbon measurement, progress has been made to develop a common monitoring framework which should support setting a reduction target in ED3. However, stakeholder feedback and early analysis suggest that comparing performance across DNOs is difficult due to inconsistent targets and reporting formats. In addition, reviewing individual AERs is resource-intensive, potentially limiting the effectiveness of the reputational incentive.

4.133 In the Framework Decision, we decided to retain the main components of the RIIO-ED2 environmental framework, but to review the effectiveness of these

[29] Headline data from the 2024/25 regulatory reporting packs show that some DNOs' performance across these key environmental indicators has deteriorated compared to 2023/24. Unfortunately, the DNOs' year two AER were not available at the time this document was finalised. We will review the underlying drivers for the change when the 2024/25 AER are published.

elements and strengthen them where possible. This will also include considering where new areas can be added within the EAP and AER.

Proposed approach

4.134 Following on from the Framework Decision, we are proposing several changes to the EAP and AER to improve consistency, comparability, and ambition across the sector to deliver environmental improvements.

Environmental Action Plans (EAP)

Scope

4.135 The scope of the EAP defines the environmental impact areas we expect the DNOs to address through targeted actions. For ED3, we propose to retain the core impact areas from RIIO-ED2, with refinements to reflect evolving responsibilities and stakeholder feedback.

4.136 We propose the following areas will remain in scope, given their continued materiality and relevance to DNOs' networks and operations:

- Business Carbon Footprint (BCF), including Scope 1, 2, and 3 emissions;
- Sulfur hexafluoride (SF_6) emissions and transition planning;
- embodied carbon in infrastructure and materials;
- natural capital and biodiversity (including marine biodiversity);
- noise pollution;
- oil pollution;
- Polychlorinated Biphenyl (PCB)-related pollution;
- resource use and waste reduction;
- supply chain sustainability; and
- visual amenity impacts.

4.137 We are proposing two refinements to respond to evolving priorities within the sector. The first proposal relates to the treatment of electricity losses; the second relates to the more flexible use of the undergrounding allowance.

4.138 **Electricity losses** - We propose removing electricity losses from the EAP scope as the responsibility for loss optimisation is moving to the DSO function in ED3 (see Distribution System Operator section in Chapter 5). This change will ensure that loss optimisation is fully integrated into the DSO's network planning and operational efficiency decision making. DNOs will continue to report on electricity losses as part of BCF in their AER.

4.139 **Flexible use of undergrounding allowance** - In RIIO-ED2, DNOs receive an undergrounding UIOLI allowance to support the removal of overhead lines (OHL) in protected landscapes, such as National Parks and Areas of Outstanding Natural Beauty (AONBs), primarily for visual amenity improvements.

4.140 We are seeking views on whether the UIOLI allowance could be used more flexibly in ED3 to deliver a range of landscape enhancement measures to reduce the visual impact more efficiently. This could include:

- partial undergrounding combined with habitat restoration;
- screening or planting schemes to soften the visual impact of retained infrastructure; and
- nature-based solutions that integrate environmental and aesthetic benefits.

4.141 We welcome views on whether DNOs should have more flexibility to use the allowance for landscape and nature-based solutions.

4.142 At this stage we are not proposing to add any new areas to the defined scope of the EAP for ED3 (see Paragraphs 4.175 to 4.182 for discussion on the specific areas we considered but are not proposing).

4.143 While the scope of the EAP is defined to ensure consistency, we recognise that the proposed scope may not fully capture all the environmental issues faced across different regions and in all network contexts. Therefore, we expect DNOs to respond to material environmental impacts beyond the defined scope where these arise from regional context, community priorities, local planning or legislative requirements. For the avoidance of doubt, it is not intended that the defined scope of the EAP would prevent taking action where these are justified.

Baseline expectations

4.144 The baseline expectations we set for EAPs are the foundation for assessing the ambition, quality, and efficiency of each DNO's EAP. We propose to revise these for ED3 to drive improved environmental outcomes.[30]

4.145 **Standardised metrics** - To address the current challenge of inconsistent data and reporting formats we propose to introduce a set of common metrics for DNOs to use as the basis for setting targets and annual milestones. These should help enable a meaningful comparison across companies and improve consistency in reporting. For example:

[30] Our baseline expectations for RIIO-ED2 EAPs are set out in Annex 3 of the RIIO-ED2 Business Plan Guidance.

- BCF reduction targets to be based on location-based measures and include scopes 1, 2 and 3 rather than market-based measures.
- Reduction targets for SF_6 emissions (in kg rather than leakage rates) and the total bank of SF_6 contained in equipment on the network.
- Reduction targets for oil top ups in litres and fluid-filled cables in kms.
- Reduction target for the embodied carbon of built projects as tCO2e per £m.
- Circularity metrics such as take-back return rate for £m expenditure.

4.146 We plan to develop the revised baseline expectations for EAPs with stakeholders and provide further detail in the Business Plan Guidance (BPG).

4.147 **SMART targets and annual milestones**: We propose that the DNOs set Specific, Measurable, Achievable, Relevant, and Time-bound targets for each impact area in the EAP. We also propose these are accompanied with:

- Annual milestones over ED3 to track progress;
- Clear baselines and trajectories for longer-term targets; and
- Justification for target levels, including how these reflect:
  - broader environmental goals;
  - the specific environmental context of a DNO's region; and
  - the DNO's progress to date in addressing a particular impact area ie its mitigation maturity.

Identifying and prioritising actions

4.148 To strengthen the strategic value and effectiveness of the EAP, we propose that the DNOs take a more structured and transparent approach to identifying and prioritising environmental actions.

4.149 **Best practice measures** - We propose that each DNO set out the potential measures available to address each impact area of the EAP that represent sector-wide best practice and DNO-specific opportunities. These could cover a broad range of opportunities across:

- Proven technologies eg SF_6-free alternatives, leakage monitoring and capture.
- Engineering solutions eg circular design, low-carbon construction.
- Operational improvements eg logistics optimisation, low-carbon fuels.
- Administrative practices eg environmental management systems, sustainable procurement.

- Collaborative initiatives eg shared methodologies, industry-agreed standards.

4.150 **Prioritisation**- We propose that the DNOs then evaluate the best practice measures using a clear set of rationalisation criteria to prioritise the actions they take forward in their EAP. This will ensure that the decision-making behind each DNO's EAP is transparent and rigorous within the regional context of each DNO. We propose the criteria include:

- Materiality of impact: How significant is the environmental benefit associated with the action?
- Cost-effectiveness: What is the relative cost of the action compared to its environmental benefit?
- Regional relevance: Is the action appropriate given the environmental characteristics of the licence area?
- Mitigation maturity: Has the DNO already made progress in this area, or is it a new opportunity?
- Practicality: Is the action technically feasible and operationally deliverable within the ED3 period?
- Stakeholder value: Does the action align with stakeholder priorities?
- Alignment: Is the action consistent with broad environmental goals, local planning or legislative requirements?

A structured evaluation of EAPs

4.151 We are proposing to introduce a structured evaluation framework to assess the DNOs' ED3 EAPs. The aim of the evaluation will be to assess the ambition and credibility of each EAP in a consistent and transparent manner, while recognising differences in regional context and starting points.

4.152 We believe a structured evaluation will enable fair comparisons across DNOs' EAPs and strengthen the reputational incentive by making visible each DNO's environmental track record, the balance between ambition and compliance, and whether plans are credible, cost-effective, and aligned with consumer and environmental goals.

4.153 We propose the evaluation will consider the following:

- Ambition
  - Are the targets stretching and forward-looking?
  - Do they go beyond legal compliance or business-as-usual?
- Environmental track record

    - What progress has the DNO already made in this area?
    - Is the EAP building on past activity or addressing a gap or emerging issue?
- Evidence base
    - Are the targets and actions supported by data, analysis, or benchmarking?
    - Has the DNO demonstrated a clear rationale for its approach?
- Credibility
    - Are the actions technically and operationally feasible?
    - Are the timelines and milestones achievable?
- Value for Money
    - Are the proposed actions cost-effective relative to their environmental benefit?
    - Has the DNO considered alternative or lower-cost options?
- Alignment with environmental goals
    - Do the actions support national and sectoral goals eg net zero, minimising pollution?
    - Are they consistent with wider RIIO-3 policy direction?
- Responsiveness to regional context
    - Are there local environmental conditions, constraints, and opportunities specific to the region or nation?
- Stakeholder engagement and transparency
    - How has the DNO engaged stakeholders in shaping its EAP?
    - Is the plan clearly communicated and accessible?

4.154 A structured evaluation of EAPs can help identify where targeted action is most needed. There are two such areas - SF_6 emissions and oil leakages from fluid filled cables, where performance varies and stakeholder concern is high. The next section explores current trends and potential regulatory responses for these two areas.

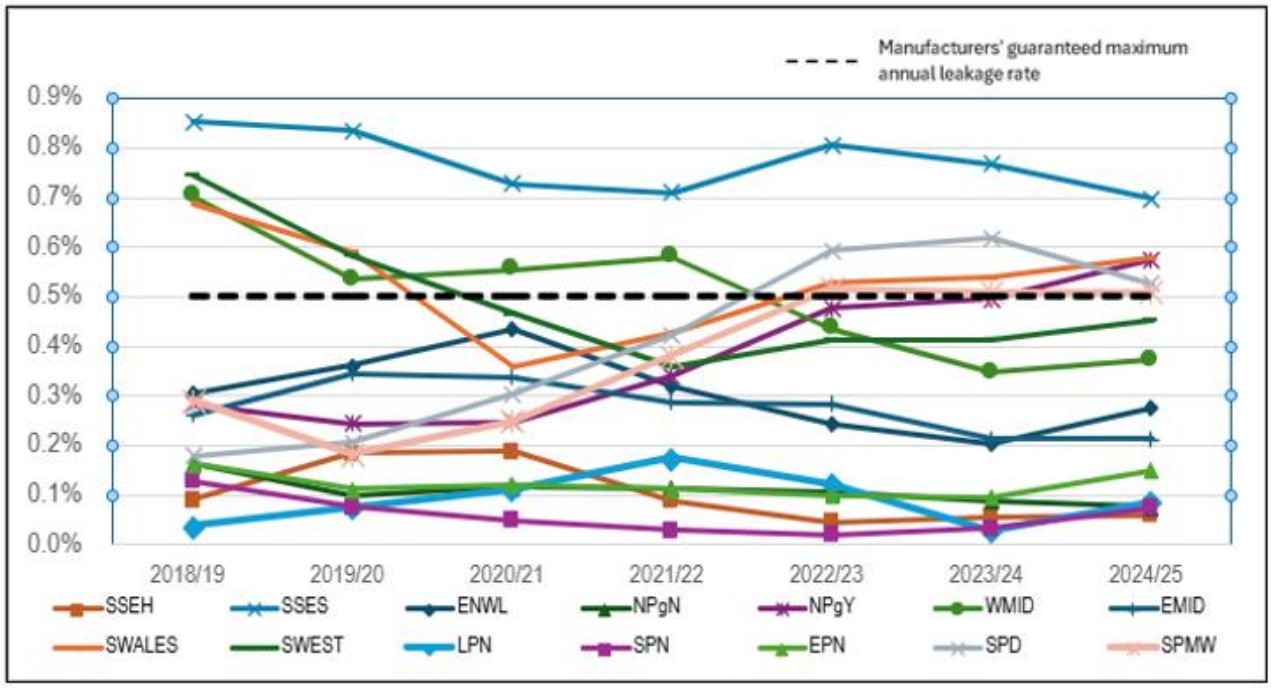
SF_6 emissions evidence base and strategic response

4.155 SF_6 is a potent greenhouse gas widely used in electrical switchgear due to its excellent insulating properties. However, its environmental impact is a key area of concern for stakeholders, as reflected in feedback received on both the EAPs and AERs.

4.156 Stakeholders have asked us for more information about SF_6 emissions across the network and to consider whether additional regulatory mechanisms could help drive emission reductions.

Current evidence base

Figure 6: SF_6 leakage rates, two-year moving average



4.157 Figure 6 shows SF_6 leakage rates across licence areas, [31] using a two-year moving average since 2018/19.[32] Most licensees report leakage rates below 0.5%, which is less than the maximum annual leakage rate typically guaranteed by SF_6 equipment manufacturers.

4.158 Since 2018/2019, leakage rates have fallen in most licence areas showing better performance. However, leakage rates have increased in a few areas, which we believe merits further review.

4.159 We have looked at SF_6 emissions by voltage level using licensee data from the DNOs' AER key performance indicator tables. Although this analysis covers only one year, it reveals the following:

- Low Voltage (LV): Only a few DNOs report any SF_6 on the LV network, and leakage levels are negligible.

[31] The leakage rate is the proportion of SF_6 gas lost from equipment, measured as a percentage of the total SF_6 contained within the asset.
[32] A two-year moving average smooths out short-term fluctuations (which can often be due to timing issues) and provides a clearer picture of underlying performance trends, helping to avoid misleading conclusions from one-off events in annual data.

- High Voltage (HV): HV networks hold the largest SF_6 bank, but most leakage rates are close to 0.5% or below, including seven licensees that are at or near zero.
- Extra High Voltage (EHV): This is the only voltage level where leakage rates exceed 1% in some licence areas. Three out of 14 licence areas report EHV leakage rates around 1%, while others remain below 0.5%.
- 132 kV: All reported leakage rates are below 0.5%.

4.160 Based on the dataset, there might be opportunities at the EHV level for better asset management practices to lower leakage rates. For example, these might include DNOs strengthening leak detection, increasing inspection frequency, improving maintenance regimes and prioritising asset replacement where needed. However, as there are only a few licence areas reporting higher leakage rates, we think that a proportionate and collaborative review of DNOs' EAP proposals in these areas may be more effective than applying a sector-wide incentive.

4.161 Lowering leakage rates is a positive step and reflects improving operational performance. However, our ultimate goal is to see reductions in overall SF_6 emissions across the network. To support this, we are consulting on strengthening the baseline expectations for DNOs to adopt a SF_6 emissions reduction target alongside a target to reduce the total SF_6 bank held in equipment on their network (see Paragraphs 4.144 to 4.145 on EAP baseline expectations). This approach aligns with the direction of travel in wider policy, including DEFRA's work to phase out the use of SF_6 in electricity networks as part of its review of F-gas regulations.[33]

Oil leakage from fluid filled cables evidence base

4.162 Fluid filled cables (FFC) are a type of cable that use a non-conductive dielectric fluid to improve their insultation properties and enhance cooling. Older styles of these cables contain oil which impacts on the environment if the cable leaks, due to aging, changing ground conditions or third-party damage.

4.163 The environmental impact of leaking oil from FFCs is a key area of concern for stakeholders. In RIIO-ED2, all DNOs committed to reducing the amount of oil top ups leakage reduction target (in both percentage and litres) and the number of km of cable to be replaced during the RIIO-ED2 period.

[33] DEFRA is currently reviewing the UK's F-gas regulations, including the use of SF_6 in the power sector. This review is expected to align with EU policy developments and support the UK's net zero goals. DEFRA is considering stricter controls and potential phase-out measures for SF_6, and is engaging with industry to understand barriers to adopting lower-GWP alternatives

4.164 For ED3, we want to understand how we can speed up the replacement of these cables and reduce oil leakage from them in the next price control.

Current evidence base

Figure 7: Oil fluid filled cables in service (kms) by DNO

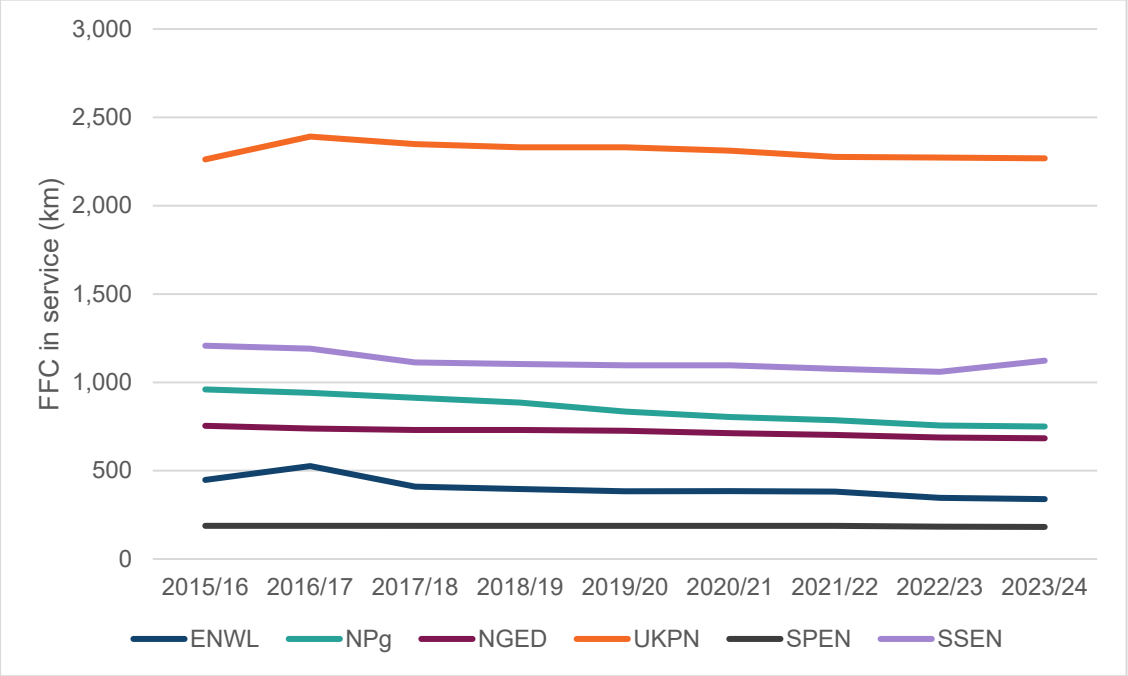
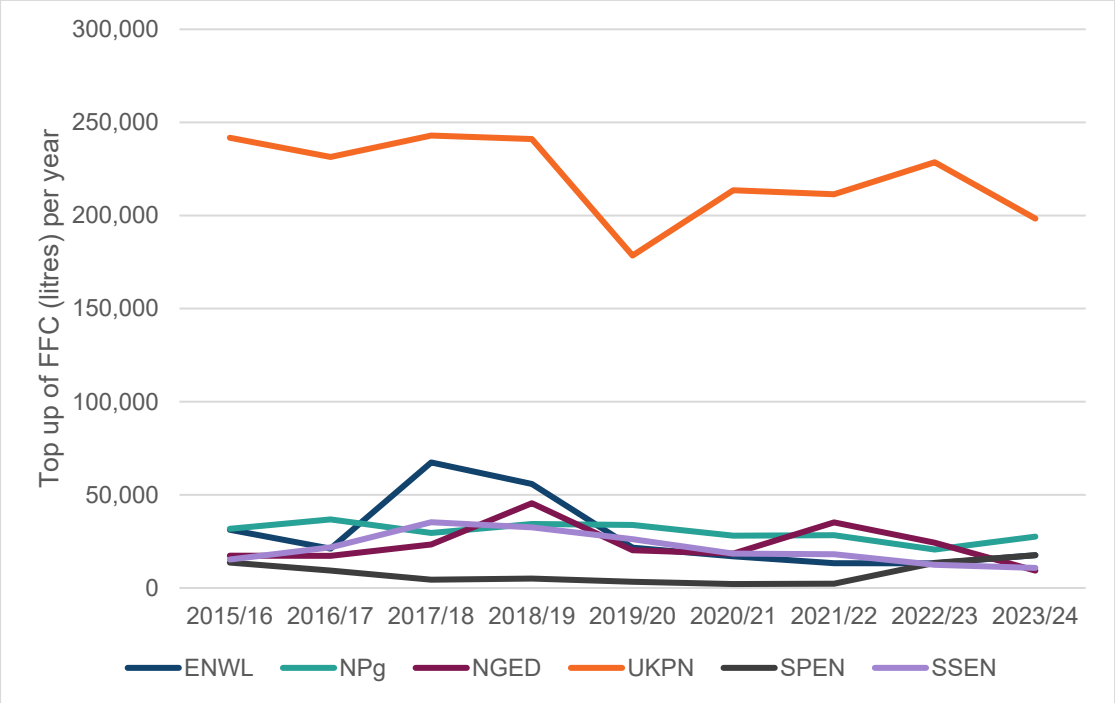


Figure 8: Top up of fluid filled cables (litres of oil) per year by DNO



4.165 The data from the start of RIIO-ED1 shows an approximate 9% reduction in the number of kms of oil FFC in service, and variable trends in the amount of oil

topped up each year, with the total top up for 2023/2024 being 266,256 litres. This demonstrates that DNOs are not making significant inroads in reducing either the number of km of oil FFCs in service, or the amount of oil top-ups needed.

4.166 Although all DNOs have set targets in the number of km replaced during RIIO-ED2, we think that we now need to do more to speed up this process and want to see clear reductions in overall leakage from FFC across the network in ED3 ultimately get to a place where oil leakage from FFCs is no longer an issue.

4.167 To support this, we are consulting on strengthening the baseline expectations for DNOs to adopt stronger reduction targets for oil top ups in litres and fluid-filled cables in kms (see Paragraphs 4.144 to 4.145 on EAP baseline expectations). We are also considering whether more should be done to hold DNOs to account for delivering on their targets, such as a specific penalty only incentive or PCDs (see also the section below on 'Delivery and accountability' of AERs). We would be interested to hear stakeholders' views on this.

Annual Environmental Reports (AER)

4.168 The AER is a key component of the environmental framework, designed to provide transparency, support stakeholder scrutiny and act as a reputational incentive for DNOs on their environmental performance.

4.169 In ED3, we propose to strengthen the AER in two main areas: delivery and accountability and monitoring performance.

Delivery and accountability

4.170 We propose to retain the reputational incentive through a continued requirement on the DNOs to publish the AER. However, to enhance its effectiveness, we are consulting on introducing an Ofgem-led annual review of the AERs. This would provide independent scrutiny, improve comparability and increase visibility of DNO implementation of their EAPs across the sector.

4.171 We also propose that PCDs could be introduced where DNOs put forward high-value environmental proposals in their EAPs eg >£10 million. While stakeholders supported the use of PCDs in material areas, concerns were raised about their rigidity and potential to limit ambition. We welcome views on how PCDs could be designed to support evolving environmental goals while maintaining accountability.

Monitoring performance

4.172 To improve the usability and comparability of AERs, we propose the introduction of standardised dashboards for each impact area. These would present key metrics in a consistent format, enabling stakeholders to more easily assess progress and compare performance across DNOs. For example, this could include improved tracking of annual milestones against long-term targets, to better assess progress and identify areas of underperformance.

4.173 We also propose to explore sector-wide synthesis of AER findings, such as summary reports or league tables, to support stakeholder engagement and reinforce the reputational incentive.

4.174 Stakeholders have indicated that current AER formats are resource-intensive to review and difficult to compare. These proposals aim to address those concerns and ensure the AER becomes a more effective tool for tracking environmental performance in ED3.

Options considered but not proposed

Expanding the EAP scope to cover broader sustainability issues

4.175 Some stakeholders suggested that the EAP should be expanded to include broader sustainability aspects, such as social and economic impacts. While we recognise the importance of these issues, we are not proposing to include them within the EAP scope for ED3. This is because these aspects are already addressed through targeted mechanisms and requirements within the price control and wider regulatory framework, including:

- Customer vulnerability incentive – supports services for consumers in vulnerable situations.
- Customer satisfaction and complaints incentives – drive quality improvements in customer-facing services.
- Legislative and regulatory requirements – eg Equality Act 2010, Modern Slavery Act 2015, and various procurement regulations.
- Company-led initiatives – strong internal incentives exist to promote diversity, equity, and inclusion to attract and retain talent.

4.176 We consider that expanding the EAP to cover these areas would duplicate existing mechanisms and dilute its environmental focus.

Stretch targets for biodiversity

4.177 Some stakeholders suggested that the EAP should include stretch targets for biodiversity, going beyond legal compliance. While we acknowledge the

importance of biodiversity and the role DNOs can play in enhancing natural capital, we are not proposing to introduce stretch targets beyond statutory requirements in ED3.

4.178 Our rationale is to maintain alignment with the approach taken in other sectors under RIIO-3, which focuses on compliance with existing biodiversity legislation. In addition, the requirement to deliver Biodiversity Net Gain for projects requiring planning consent already represents a step change in environmental outcomes compared to RIIO-ED2. These obligations ensure that in-scope projects deliver measurable improvements in biodiversity.

4.179 It is also challenging to determine what level of environmental improvement beyond legislative requirements would be considered proportionate or represent good value for consumers. We therefore believe that the current framework strikes an appropriate balance between ambition, consistency, and deliverability.

Marine biodiversity

4.180 Stakeholders also proposed that marine biodiversity should be included as a separate impact area within the EAP. While we recognise that marine biodiversity may be relevant in a small number of licence areas with subsea infrastructure, we are not proposing to create a distinct category for it in ED3.

4.181 Instead, we expect marine biodiversity impacts to be considered under the broader biodiversity impact area, and DNOs will be expected to address them where relevant, particularly where planning or legislative requirements apply. This approach ensures consistency across the framework while allowing flexibility for DNOs to respond to region-specific environmental challenges.

4.182 As noted elsewhere, the EAP framework does not prevent companies from proposing bespoke actions where these are justified by local context or regulatory obligations.

Consultation questions

Q42. How should the EAP baseline expectations be revised to drive improved environmental outcomes in ED3 and beyond?

Q43. What criteria should be prioritised in a structured evaluation of DNOs' EAP for ED3?

Q44. Is the proposed approach to SF_6 - focusing on reducing both absolute emissions and the total SF_6 bank - appropriate and proportionate?

Q45. Do you think we should introduce a specific mechanism to hold DNOs to account for delivering on their Fluid Filled Cables reduction targets? If so, what should this take the form of?

Q46. How can tools like the AER and PCDs be used to strengthen delivery and accountability of the EAPs in ED3?

Consumer voice/research

Background

4.183 Engaging with stakeholders, and ensuring consumers' needs, priorities and views are reflected in business plans, remains central to the ED3 price control. In our Framework Decision,[34] we stated that consumer research is vital to ensuring consumers can feed into the ED3 process. We specified three strands which would be developed further in the methodology phase:

- We will provide guidance on consumer research to be conducted by the DNOs in developing their business plans,
- We will work with DNOs and other stakeholders to define areas where DNOs could work collaboratively on research to ensure consistency on key areas of interest, and
- We will commission our own enduring research programme, to provide insight and consumer evidence to support our decisions.

Proposed approach

Guidance on consumer research

4.184 Following from the Framework Decision, we developed a draft guidance document on how we expect the DNOs to conduct their individual research, and how we expect this research to be presented in the business plans. This draft guidance has been developed through conversations with DNOs and wider stakeholder engagement. We have decided to include the draft guidance in this consultation, as we want feedback from a wide range of stakeholders. The draft guidance is set out in Appendix 3.

Collaborative research

4.185 We believe a collaborative approach to research by DNOs can enable the companies to optimise value for money, avoid duplication of work, support more comparable findings and increase consistency in research. We asked the DNOs, via the Energy Network Association (ENA), to formally consider the merits of

[34] Framework Decision

collaborative research and consider what topics may be appropriate to be taken forward collaboratively.

4.186 The DNOs have shared their joint view of the key drivers for a collaborative approach and are considering which areas may be most suitable to be taken forward. The drivers for collaborative research identified by DNOs are:

- Issues or areas where Ofgem is considering significant new or updated policy within the ED3 framework.
- Issues that affect customers nationally, where regional variability is likely to be low.
- Issues where DNOs need to develop a common position or solution, especially on newer issues or responsibilities.
- Where Ofgem requires comparability in findings (this could include research commissioned separately but with a consistent methodology).
- Where joint research is more efficient or faster.

4.187 We will work with the DNOs to identify areas suitable for collaborative research and aim to agree these as soon as possible.

Ofgem-led research

4.188 Following on from the Framework Decision, we have begun the process of setting up our own specific programme of ED3 consumer research to ensure that the consumer voice is embedded throughout the ED3 process. We envisage that this research will inform more cross cutting, national level topics involving a broad range of consumer types. To maximise the outcomes of the research, we will ensure our own research is not duplicating the work done by DNOs. However, there might be areas of research conducted by the DNOs that we require further insight on.

4.189 We also want to ensure our policies and decisions are fit for purpose and are impacting consumers fairly. We will use a range of methodologies in our own research programme and are considering setting up a national consumer panel to ensure that we can access consumer views throughout the ED3 process.

Consultation question

Q47. Do you have any comments on the proposed guidance on consumer research set out in Appendix 3?

Enhanced stakeholder engagement (Independent Stakeholder Groups and guidance)

Background

4.190 In the Framework Decision, we said we would adopt the RIIO-3 position and mandate the appointment of Independent Stakeholder Groups (ISGs). The ISGs will be the main stakeholder engagement forums and will provide challenge on the level of engagement the companies have had with their stakeholders and to what extent this has influenced the development of the Business Plan, and on how the companies have continued to engage with stakeholders on an enduring basis throughout the price control. This will ensure stakeholder views and the consumer voice is central from the outset and regularly feeds into business operations.

4.191 In the Framework Decision, we said we would align with the RIIO-3 decision on enhanced stakeholder engagement and provide a mandate for DNOs to establish an ISGs. We also said we would align the ED3 ISG guidance with the guidance provided in the RIIO-3 Business Plan Guidance.[35] However, we acknowledged from stakeholder feedback that further detail was needed on the ISG membership, role and remit.

Proposed approach

4.192 Since the Framework Decision, we have developed the ISG guidance, building on the RIIO-3 Business Plan Guidance, providing additional guidance on membership and scope of the Terms of Reference for ISGs in ED3. The guidance has been developed through discussion with stakeholders, but we want to hear a range of views on this and are therefore now formally consulting on this guidance. The draft guidance is set out in Appendix 4.

4.193 We are proposing to be more specific about the membership of the ISGs and are suggesting specific roles the ISG should include and what should be detailed in the terms of reference. The details of this are set out in the draft guidance, and we welcome views on the additions for ED3.

Consultation question

Q48. Do you have any comments on the proposed ISG guidance as set out in Appendix 4?

[35] RIIO-3 Business Plan Guidance

Accountability for consumer outcomes

Background

4.194 Accountability for consumer outcomes remains a key priority for ED3. We set out in our Framework Decision how the ED3 consumer outcomes are aligned to our Consumer Interest Framework (CIF).[36] This link ensures decisions are made in the interest of consumers and that they are implemented through the price control. In addition, NIC recommended that future price controls should be focused on a wide range of objectives and delivery of wider consumer value[37].

4.195 In the Framework Decision we said we would build on the work and processes developed in RIIO-ED2 and that companies should demonstrate the wider value that they deliver in a more consistent way.

Proposed approach

4.196 Our approach in this area focuses on improving the way that the DNOs communicate the value and benefits that they deliver, particularly in respect of less tangible outputs and outcomes. We propose that this could be achieved through a combination of the following:

- Business Plan Commitment Reporting (SLC50); and
- Consumer Value Framework (CVF).

<u>Business Plan Commitment Reporting</u>

4.197 In RIIO-ED2 we updated the SLC50 Business Plan Commitment Reporting Guidance, originally introduced in RIIO-ED1. We propose retaining a requirement for annual reporting against DNO business plan commitments and expect to update guidance for ED3 to ensure full transparency and accountability for key consumer outcomes and wider commitments.

4.198 In Chapter 8 we have noted that we are considering deferring BPI rewards relating to business plan commitments, until such time as those commitments have been delivered. The updated Business Plan Commitment Reporting Guidance will take account of any changes to the BPI rewards mechanism.

4.199 We will work with consumer representatives, ISGs, DNOs and wider stakeholders in the development of the new ED3 SLC50 guidance.

[36] Ofgem's multi year strategy

[37] Recommendation 7 - please see Chapter 9 for full list of NIC recommendations and our response.

Consumer Value Framework (CVF)

4.200 In our Framework Decision we noted that there may be merit in introducing a new framework to articulate the potential benefits and value created by the DNOs through the price control in ways other than costs and bill impacts.

4.201 Some DNOs have provided suggestions of what such a framework might look like, who the audience could be and what it might be used for. We have held discussions with DNOs, ISGs, Citizens Advice and wider stakeholders to inform a set of draft principles that are set out below that could underpin future development of a CVF. Currently, we are consulting on the following principles before progressing the development of a framework.

4.202 CVF principles:

- The purpose of the Consumer Value Framework (CVF) would be to enable Ofgem and DNOs to provide a consistent and transparent approach to communicating the value created by DNOs' business plans in a way that is understandable to consumers and wider stakeholders.
- The CVF should link the value created by DNOs to the ED3 Consumer Outcomes and Ofgem's Consumer Interest Framework.
- The CVF should explain the potential value created by DNO business plan proposals in a consistent way across the sector, using simple common metrics and then track the delivery of this value in period.
- The CVF should be proportionate in terms of complexity and application; and consistent with its purpose and uses in its evolution and application.
- The CVF should not be an entirely new and unique approach but build on existing tools used in the electricity distribution and/or other sectors, with appropriate adaptation and/or enhancement.

4.203 At this stage, we do not expect to assess or benchmark business plans using a new CVF and would not expect it to be used to evaluate individual investment proposals on a comparable basis. That said, the experience gained by developing a CVF for ED3 would allow for the potential evolution of the framework for ED4 and any ED3 CVF should be designed with these use cases and future price controls in mind.

Consultation questions

Q49. Do you agree with our proposal to retain and adapt SLC50 Business Plan Commitment Reporting? Do you have suggestions for how the reporting should evolve?

Q50. Do you agree that we should proceed with the development of a Consumer Value Framework for ED3 and if so, do you agree with the principles set out above as the basis for developing a CVF?

5. Smarter networks

Introduction

5.1 The transition to a decarbonised, decentralised, and digitalised energy system is accelerating, and electricity distribution networks must evolve rapidly to keep pace. Smarter networks are fundamental to enabling this transformation; they support system flexibility, empower consumers, and facilitate efficient investment. As the energy system becomes more complex, with rising volumes of Distributed Energy Resources (DER), Consumer Energy Resources (CER), decarbonisation of heat and transport, and increasing demand for real-time data, smarter networks will play a critical role in maintaining system security, resilience, and affordability.

5.2 This chapter sets out our proposals for the smarter networks policy area in ED3, which comprises three interlinked components: Data and Digitalisation, Innovation, and Distribution System Operator. Together, these policies aim to deliver a more intelligent, responsive, and consumer-focused electricity distribution system.

5.3 Building on the foundations laid in RIIO-ED2, we propose clearer and more outcome-driven expectations for how DNOs manage and use data. High-quality data and interoperable digital tools are essential for enabling flexibility, visibility, and coordination across the system. Our proposals align with wider government and Ofgem priorities, including the Clean Flexibility Roadmap, RIIO-3 and Data Best Practice principles. These objectives will be supported by outcome-based metrics and revised reporting requirements to ensure transparency and alignment with whole-system and consumer outcomes.

5.4 Innovation remains central to the price control framework, in recognition of the need for networks to adapt and respond to emerging challenges. ED3 continues to support innovation through the Strategic Innovation Fund (SIF) and Network Innovation Allowance (NIA), while aligning with RIIO-3 proposals for other sectors. We are also exploring further reforms to better incentivise transformative innovation and foster a culture of experimentation and learning across the sectors as well as whether we should introduce mechanisms that might better drive the deployment of innovation.

5.5 The DSO function will take on a more strategic and proactive role in ED3, leading forward-looking network planning and operational decision-making. DNOs will be expected to ensure capacity stays ahead of demand, integrate LCTs efficiently, and coordinate with regional planning frameworks such as

Regional Energy Strategic Plan (RESP) and SSEP. Enhanced responsibilities for voltage management and loss reduction will support system reliability, enable flexibility, and help reduce costs. These developments reflect the need for whole-system coordination, transparency, and consumer-focused outcomes in a rapidly evolving energy landscape.

5.6 Across all our policies to enable smarter networks, our proposals aim to reduce market barriers, improve transparency, and ensure coordinated delivery of whole-system benefits. By embedding smarter networks at the heart of ED3, we aim to ensure that distribution networks are equipped to meet the demands of a modern energy system — one that is flexible, data-driven, and focused on delivering value for consumers and the wider system itself.

Digitalisation and data

Background

5.7 High-quality data and digital tools are essential for an efficient, flexible and secure electricity distribution system. We want to build on our Framework Decision and the digitalisation foundations introduced in RIIO-ED2 by setting clearer expectations around outcomes, interoperability, data sharing, and asset visibility.[38] These reflect wider government and Ofgem priorities including Ofgem's RIIO-3 reforms,[39] the Clean Flexibility Roadmap,[40] and the Data Best Practice (DBP) principles.[41]

5.8 We are minded strengthening expectations on digital delivery to ensure that data is treated as a strategic asset, underpinning investment decisions, service innovation, and consumer value. Our proposals aim to further increase transparency of DNO digitalisation activities and outcomes, reduce market barriers, and ensure digitalisation activity delivers positive whole-system and consumer outcomes across the price control period.

5.9 These proposals are consistent with the direction set out in the Framework Decision and reflect stakeholder support received in response to the Framework Consultation, particularly the need for stronger digitalisation outcomes, enhanced data sharing, and proportionate governance of emerging technologies such as AI.

[38] Framework decision: electricity distribution price control (ED3) | Ofgem
[39] RIIO-3 Sector Specific Methodology Decision for the Gas Distribution, Gas Transmission and Electricity Transmission Sectors | Ofgem
[40] Clean flexibility roadmap - GOV.UK
[41] Data Best Practice as a Code Obligation | Ofgem

5.10 Thus, in ED3, we propose to continue initiatives introduced in RIIO-ED2, including Digitalisation Strategy and Action Plans (DSAPs),[42] DBP Guidance compliance, significant investment in network visibility, utilisation of the Common Information Model to describe the electricity network,[43] and a digitalisation reopener, with the addition of the following five core outcome-driven objectives to strengthen this foundation:

1. strategic outcomes and internal capability;
2. Data Sharing Infrastructure (DSI) participation;
3. interoperability and coordination;
4. ethical and proportional use of AI; and
5. asset visibility and dynamic asset data.

5.11 Outcome-based metrics reporting will remain a cross-cutting requirement across these objectives with revised expectations focused on those outcomes, rather than volumes. This follows working group feedback where stakeholders expressed strong support for transparency, system coordination, and simplification of reporting.

5.12 In addition to enhancing the digital foundation set in RIIO-ED2, this consultation also builds upon, and aligns with, the RIIO-3 Draft Determinations and SSMD for the electricity transmission and gas sectors,[44] the government's Clean Power Action Plan,[45] and existing DNO licence conditions.

Proposed approach

Strategic outcomes and internal capability

5.13 Under the RIIO-ED2 framework, DNOs are required to publish their DSAPs setting out their digital ambitions and how they will deliver them. They must explain how digital investments align with strategic outcomes, such as improving connections, flexibility, and cost efficiencies.

5.14 Throughout RIIO-ED2, we have found that DSAPs have varied significantly, making it difficult for stakeholders to compare or assess the DNOs' progress on digital initiatives. We have also found that, in DSAPs, digitalisation activities are not always clearly linked to strategic outcomes, leading to duplication of investment and limited value for the whole system.

[42] Track Changes Digitalisation Strategy and Action Plan Guidance v2.0
[43] Long Term Development Statement direction | Ofgem
[44] RIIO-3 Draft Determinations for the Electricity Transmission, Gas Distribution and Gas Transmission sectors | Ofgem,
[45] Improving the visibility of distributed energy assets - GOV.UK, Clean Power 2030 Action Plan - GOV.UK

5.15 Additionally, in RIIO-ED2 Business Plan submissions and innovation project reviews, we observed that there was a significant reliance on digital consultants. We expect to see this reliance reduce over time as DNOs build in-house digital capabilities, reducing end costs for consumers. We consider this will help embed a 'digital-first' culture within the DNOs, however, we also recognise that external expertise may still be required to deliver more complex projects.

5.16 In ED3, we expect DNOs to:

(i) set out the strategic outcomes for each digital investment in their Business Plans (with further details on what we expect to see to follow in Business Plan Guidance);

(ii) report progress against those outcomes in their DSAPs, linking digital spend to measurable benefits (eg faster connections, carbon savings, cost reduction); and

(iii) use six-monthly Digitalisation Action Plans to evidence delivery, learning and next steps, with biennial Digitalisation Strategies assessing portfolio-level performance across investments.

5.17 Given the pace of change in technology and policy, we have not prescribed what all the strategic outcomes for ED3 digitalisation should be, however we welcome views on whether we should be more prescriptive about these strategic outcomes.

DSI participation

5.18 DSI participation will enable secure, standardised, and interoperable data sharing between energy system participants without the need for repeated legal agreements. It will be a key enabler of system coordination and efficiency. However, the full benefits of a shared data infrastructure can only be realised when majority of the energy sector participates. The DSI is being developed by NESO to Minimum Viable Product (MVP) stage and will be governed by NESO as the Interim DSI Co-ordinator until the end of 2028.[46] We are still exploring options for long term governance of the DSI.

5.19 We intend to publish a consultation to make participation in, and use of, the DSI a licence requirement for the DNOs once the DSI reaches its MVP stage of operation (which we expect by mid- to late-2026). If delivery of the DSI progresses as expected along this timeline, the DSI will progress from a private beta to a public beta stage for the start of ED3 and be in use by all regulated

[46] Governance of the Data Sharing Infrastructure Decision | Ofgem

networks and early adopters. We expect that DNOs will already be using the DSI during this period to assist in achieving ED3 outcomes.

5.20 We expect DNOs to make appropriate investments to utilise the DSI effectively during ED3 and will ask for specific information on these investments in Business Plan Guidance, as we requested for Electricity Transmission and Gas network licensees.

5.21 We also consider that DSI activities in RIIO-ED2 fall within the scope of the Digitalisation reopener.

5.22 In response to our Framework Consultation, several DNOs noted that only measuring the volume of datasets used and consumed did not properly assess the value-add of the data or promote good open data practices. Therefore, we are proposing that participation will be reported via SLAs and will be measured through qualitative outcomes rather than quantitative dataset counting.

Interoperability and coordination

5.23 Datasets are not published in one consistent data standard or format across all DNOs. This variation causes interoperability changes when working with data from all DNOs for whole-system applications. Existing mechanisms such as DBP Guidance and DNO participation in industry forums have delivered progress, but not at the pace or consistency required. Stakeholders have also recognised the need for greater interoperability in the sector.[47] Government evidence also highlights under-registration of energy assets and inconsistent data formats, making it harder for the system to operate efficiently.[48]

5.24 Poor interoperability of data, systems, and processes is one of the biggest blockers to data reuse, innovation, and coordination across the sector. This lack of alignment creates inefficiencies for users and can require the DNOs to undertake expensive manual efforts to reconcile data.

5.25 We recognise that interoperability is as much a coordination challenge as a technical one. Building on the DBP Guidance, we propose to establish an independent expert panel that will identify priority datasets requiring greater interoperability and coordinate action. The panel's role will be purely advisory and for monitoring progress, whilst the DNOs will remain responsible for delivery. We are considering a flexible funding mechanism to support the panel and its implementation activities.

[47] Framework Decision Paragraph 6.28
[48] Improving the visibility of distributed energy assets: call for evidence, Executive Summary Paragraph 4

5.26 When considering how best to accelerate interoperability, we assessed several delivery approaches against proportionality, speed, independence, sector-relevance, consumer benefit and cost/resource efficiency. The options were:

- business-as-usual (continue with existing obligations and forums);
- direct mandates (set binding interoperability standards in licences or industry codes);
- a DNO-led forum (expanding existing ENA groups);
- an independent expert panel (advisory, reporting and monitoring only); and
- a central authority (requiring NESO to oversee interoperability).

5.27 On balance, we are minded-to propose the independent expert panel as the most proportionate and timely mechanism for ED3. It offers impartial challenge and system focus without the cost and delay of institutional reform. Business-as-usual and DNO-led forums provide continuity but lack independence and the ability for Ofgem to ensure consistent delivery across all DNOs. Direct mandates risk rigidity in a fast-moving area, and a NESO-led central authority would be premature and disproportionate at this stage. We invite views on whether a panel is the right mechanism and, if not, which alternative would better achieve our intended outcomes.

5.28 Under this minded-to approach, the expert panel would be advisory only. It would:

- identify for prioritisation those datasets where cross-DNO interoperability will provide the greatest benefits to the whole system and consumers;
- advise on alignment with open and existing standards (the panel would not set technical standards);
- set clear outcome measures and publish a workplan and progress scorecard; and
- coordinate with NESO and relevant standards bodies to avoid duplication and poor alignment with existing work in the interoperability space.

5.29 DNOs would remain responsible for delivery under existing electricity distribution licence obligations including the requirement to comply with DBP and to publish and maintain DSAPs with Action Plans, and any relevant reporting requirements. We envisage an independent chair appointed by us, balanced membership (DNOs, NESO, suppliers/aggregators, consumer representatives and technical experts), a light-touch secretariat and a modest, flexible allowance to support panel operation during ED3. We invite views on panel identity, governance and funding, including whether an existing group could fulfil this role.

Ethical and Proportional Use of AI

5.30 AI will play an important role in the transition to a smarter, cleaner energy system, especially when leveraged effectively alongside other digital technologies. DNOs are increasingly adopting AI and applying the technology across forecasting, asset analytics and customer services. In line with the government's pro-innovation approach,[49] we expect the DNOs' use of AI to deliver value for consumers and that risks around its use are managed proportionately and appropriately. We consider the existing regulatory framework to be appropriate to govern the use of AI when supported by our AI guidance.[50] At this time, we do not plan to introduce licence conditions specific to the use of AI. This will remain under review as we expect the use of AI will change rapidly during the ED3 period.

5.31 In line with existing obligations, we propose that DNOs will provide detailed reporting on the use of AI within their DSAPs. This will include AI strategy, purpose of use, risk and the expected or realised benefits. DNOs should also report on their governance measures, with specific reference to our AI guidance. Reporting should be published in DNOs Digitalisation Strategy with subsequent Action Plans evaluating previously reported activities. It will cover both standalone AI projects and AI components embedded within wider digital programmes. This approach ensures Ofgem, and other stakeholders have increased visibility of AI use and governance while enabling DNOs to seize opportunities to use AI where they consider it most effective.

Asset visibility and dynamic data

5.32 Accurate and consistent visibility of DER and CER is essential for system planning, operational coordination and flexibility markets. Throughout RIIO-ED2, static registration data has remained patchy and inconsistent across the DNOs, with different standards and formats used by different companies for the same datasets. This fragmentation has created duplication of effort for users, limited whole-system planning, and slowed progress in flexibility markets. DESNZ's Call for Evidence on Improving the Visibility of Distributed Energy Assets confirmed that inconsistent asset registration and data formats across DNOs remains a significant barrier to coordination. Our Flexibility Market Asset Registration (FMAR) decision set out the pathway to resolve these static data gaps for assets under 1MW in flexibility markets (the scope could evolve in future),[51] mandating

[49] AI regulation: a pro-innovation approach - GOV.UK
[50] Ethical AI use in the energy sector | Ofgem
[51] Decision: flexibility market asset registration | Ofgem

a common registration solution across NESO and DSO markets aligned with the DSI trust framework and NESO as the Interim DSI Co-ordinator.

5.33 For ED3, our focus is on driving improvements in both the baseline quality of static asset registration and the targeted application of dynamic asset visibility (near real time or real time monitoring of connected assets in operation) where it delivers clear system value. We expect DNOs to baseline their current visibility across key asset classes, identify gaps in completeness, quality and standard conformity, and publish improvement plans in their DSAP - this should include progress made on implementation of previously reported improvement plans. We also expect DNOs to demonstrate how they will complete and maintain DER/CER registration; this should support data sharing with NESO in a standardised format, fully integrate with FMAR requirements and comply with relevant licence obligations. This will ensure static asset visibility keeps pace with whole system planning and flexibility market needs.

5.34 Our proposed approach is that we expect DNOs to propose proportionate dynamic visibility measures justified by robust cost-benefit analysis and targeted at where system value is greatest (eg congestion forecasting, enabling flexibility market participation and coordination with NESO, improved demand and generation forecasting, faster connections, or restoration times). We expect principles for this targeted dynamic visibility to include thresholds for business cases, acceptable use of proxies (such as Supervisory Control and Data Acquisition, SCADA or smart meter data), and proportionate assurance requirements. We will confirm in the ED3 Business Plan Guidance how we expect to see these measures presented in the DNOs' business plans.

Consultation questions

Q51. Do you agree with our proposed approach on all five themes? Why?

Q52. Do you agree with the need and role of the independent expert panel on interoperability? Why?

Q53. Do you agree that DSAPs should include outcome-linked digital spend? Why?

Innovation

Background

5.35 Innovation is an essential part of how we expect energy networks to operate. To deliver a low-carbon energy system that is reliable, safe and efficient, whilst changing at pace in line with our net zero targets, companies must find new ways of developing and operating their networks.

5.36 Networks are natural monopolies, meaning they are not subject to the same competitive pressures to innovate that most other private companies face, which is why the price control framework embeds innovation centrally within the work of energy networks. The TIM encourages innovation within the core price control framework by rewarding networks for innovation that increases their efficiency within the price control period.

5.37 Additionally, the price control provides two stimuli to support trials and encourage a culture of innovation. The first is the SIF, a competition-based fund that aims to fund ambitious, innovative projects with the potential to accelerate the energy transition, with funding available in accordance with the SIF Governance Document.[52] The second is the NIA, an upfront 'Use it or Lose it' award that each licensee receives, offering networks flexibility to determine which innovation projects they take forwards in accordance with the NIA Governance Document.[53]

5.38 In the Framework Decision, we set out our decision to align our ED3 approach with the proposals being taken forward in the RIIO-3 price control for the other sectors, as outlined in the RIIO-3 Draft Determinations.[54] Additionally, we said that we would continue exploring what reforms are needed to better incentivise and enable deployment of transformative innovation.

Proposed approach

Network Innovation Allowance (NIA)

5.39 We intend to retain a flexible innovation fund in ED3, the NIA, so that companies can continue essential small-scale and early-stage Research and Development (R&D) in an agile way. We are currently minded to maintain the NIA scope to "facilitate energy system transition and/or benefit to consumers in vulnerable situations" (the "NIA Eligibility Criteria"). We have received feedback from some network companies that the NIA Eligibility Criteria are too narrow and are preventing beneficial innovation from taking place. We invite feedback on whether these should be expanded, as well as evidence of projects that would currently not be eligible under these.

NIA assessment and funding level

5.40 Innovation should be a core part of the operation and culture of DNOs. We expect it to be fully embedded within each organisation, with networks pursuing

[52] Updates to the Strategic Innovation Fund governance document | Ofgem
[53] NIA Governance Document.
[54] RIIO-3 draft determinations are still subject to change ahead of the RIIO-3 final determinations.

innovation as part of their Business as Usual (BAU) operations, rather than simply relying on innovation stimulus funding.

5.41 We also recognise that there are areas where, due to the risk involved, without additional funding networks are unlikely to pursue innovation projects. Our process of assessing and setting NIA should strike the right balance between providing sufficient funding for these areas, while holding networks accountable and ensuring they are providing value for money, have strong mechanisms in place to deliver high-quality projects, avoid duplication, and effectively disseminate their learnings.

5.42 Our RIIO-3 assessments indicated that networks are not consistent with how they each present information, making it harder to comparatively assess their work and outputs. Additionally, they didn't always provide the level of detail we would expect in their Innovation Strategies to sufficiently evidence the processes they have in place to deliver high-quality innovation.

5.43 To address this, in ED3 we are planning to be more prescriptive in terms of the information we will require from networks and the format in which this information should be presented. We will tie this to the Innovation Minimum Requirement of the BPI, Stage A, to ensure that networks provide the necessary detail requested.

5.44 Moreover, we would like networks to clearly outline how their NIA is spent, including costs on delivering projects, costs on resourcing of core team overheads and costs of non-project specific funding, to allow us to assess how efficiently they are using their resources.

5.45 Finally, we would like the NIA setting process to be more dynamic and give networks the opportunity to improve on issues we identify in our assessment during the price control.

5.46 To accomplish this, we are considering setting a baseline NIA for all DNOs as a percentage of their base revenue. Where we have identified that the company does not have in place the essential mechanisms that are fundamental for effective innovation, rather than fully reducing their award, we will provisionally withhold part of it, subject to them demonstrating improvement during the price control in the areas where we have identified issues.

5.47 Additionally, to ensure networks are still incentivised to deliver high-quality innovation strategies despite having their NIA set as a percentage of base revenue, we are considering using Stage C of the BPI to penalise plans that are not of an acceptable quality.

5.48 Networks that are ambitious may request an allowance above the base percentage but will need to provide strong evidence to justify this.

Strategic Innovation Fund (SIF)

5.49 We intend to retain a competitive fund in ED3 in the form of the SIF to facilitate continued development of large-scale demonstrators focusing on addressing net zero ambitions.

5.50 In our RIIO-3 Draft Determinations, we consulted on introducing a 'Programmatic Approach' to innovation that combines long-term SIF Challenges and core innovation targets with more collaborative delivery, enabling greater collective accountability for outcomes. This Programmatic Approach, which will also apply to ED networks, will be started by the Energy Network Innovation Taskforce. The Taskforce will be responsible for setting the strategic direction that the SIF will take and is intending to issue its first report in spring 2026.

Innovation deployment

5.51 The NIA and SIF provide stimulus for networks to innovate, and we also expect networks to do this through their BAU activities. However, it is equally important that successful innovations are deployed at scale, and at speed, to maximise value to consumers.

5.52 The price control framework incentivises the deployment of innovations that lower costs through the TIM, as well as innovations that address bespoke incentives. However, our analysis and stakeholder engagement has found that innovations that primarily benefit the system or consumers, without direct benefit being realised by networks, are less likely to be deployed at pace. Additionally, we have seen that innovation deployment is often delayed not due to lack of funding or incentivisation, but due to lack of co-ordination between relevant parties.

Deployment Fund

5.53 In our RIIO-3 Draft Determinations, we consulted on introducing a deployment fund to support the roll-out of innovations during the price control, to avoid these being delayed until the start of the next price control.

5.54 We are minded to expand the deployment fund to also include DNOs, subject to the evidence of need provided by DNOs and our assessment of its efficacy during the first two years of the RIIO-3 price control.

DNO collaboration

5.55 Through stakeholder engagement, we identified that the deployment of innovations in the Electricity Transmission sector had been delayed due to lack of effective communication, direction and co-ordination between relevant parties. To address this, we set up the Transmission Innovation Deployment (TID) group for Transmission Operators, NESO and Ofgem to work together to identify such barriers and resolve them.

5.56 We invite feedback on whether similar barriers exist in the DNO space, and whether an equivalent forum would be beneficial in supporting faster innovation deployment.

Incentivising high-quality innovation

5.57 While we have seen an increase in deployment of innovation, we don't think DNOs are prioritising, or deploying at pace, innovations that don't directly benefit them, and this is a concern. We are interested in views on whether through ED3 we can introduce mechanisms that might drive this type of activity better.

5.58 This could take the form of an incentive, but to be effective there would need to be a clear requirement for the activity (such as a request from the NESO for services to benefit the system), and an independent measure of the benefit generated.

5.59 We invite feedback on whether such a mechanism is needed in the ED3 price control, what form it could take and examples of projects that it would bring forwards.

Consultation questions

Q54. Do you agree that we should maintain the current NIA Eligibility Criteria? Why?

Q55. Do you agree with our suggested approach for assessing and setting NIA? Why?

Q56. Do you have examples of projects that weren't able to deploy in RIIO-ED2 due to the lack of funding, or that you anticipate wouldn't be able to deploy in ED3 without the extension of the Deployment Fund to cover DNOs in ED3?

Q57. Do you perceive a lack of coordination and direction as an issue for the deployment of innovation in the ED sector, and do you think a similar intervention to the TID is needed to resolve this?

Q58. Do you agree that further incentivisation is needed within the price control for innovation that doesn't primarily benefit networks? Do you have evidence to support this?

Q59. Do you have any feedback on what kind of mechanism would best provide this incentive, while ensuring that networks are only rewarded for actual delivery of consumer or system benefit?

Distribution System Operator (DSO)

5.60 As part of the Framework Decision, we confirmed the continued importance of the DSO function but considered it needed to evolve. We recognise the DSO's evolving role in enabling a smart, flexible, and decarbonised electricity system and we want to ensure in ED3 that DSOs drive forward activities to optimise whole system benefits.

5.61 The RIIO-ED2 price control marked a significant step in formalising the role of DSOs in enabling a smarter, more flexible, and decarbonised electricity system. The scope of the DSO role was structured around three core functional areas, each with defined activities and expectations:

- Role 1 - Planning and Network Development
  - Plan efficiently in the context of uncertainty, taking account of whole system outcomes, and promote planning data availability.
- Role 2 - Network Operation
  - Promote operational network visibility and data availability.
  - Facilitate efficient dispatch of distribution flexibility services.
- Role 3 - Market Development
  - Provide accurate, user-friendly and comprehensive market information.
  - Embed simple, fair and transparent rules and processes for procuring distribution flexibility services.

5.62 For ED3, we propose the following core objectives for the DSO function. These are directly aligned but not restricted with the four responsibilities we are setting out, ensuring a coherent and outcome-driven framework for DSO delivery:

- **Network Planning** - The below objectives underpin the DSO's responsibility to plan for future system needs, coordinate with whole-system actors, and ensure timely investment in network capacity. They reflect the need for forward-looking, data-driven planning that supports decarbonisation and system resilience.
  - Lead proactive and strategic network planning to ensure the system is prepared for growing and evolving demand, including the electrification of heat and transport.

- Ensure network capacity stays ahead of need, enabling the timely and efficient integration of DERs and supporting the delivery of new infrastructure.

- **Flexibility Services** - This objective supports the DSO's responsibility to procure and dispatch flexibility services efficiently, ensuring they are used to complement strategic network development.
  - Use flexibility services to manage intermittency, network operations and local constraints, while ensuring that flexibility is not used as a substitute for necessary long-term network investment.
- **Voltage Optimisation** - Voltage optimisation is a key operational responsibility for DSOs, helping to maintain power quality, reduce energy consumption, and improve system efficiency. This objective ensures DSOs are actively managing voltage levels to deliver consumer and system benefits.
  - Improve operational efficiency through techniques such as voltage optimisation and loss optimisation and reduction, contributing to lower system costs and improved reliability.
- **Losses Optimisation** - losses optimisation includes broader strategies such as network configuration, asset design, and operational control. This objective ensures DSOs are minimising technical losses to reduce costs and environmental impact.
  - Improve operational efficiency through techniques such as voltage optimisation and loss optimisation and reduction, contributing to lower system costs and improved reliability.

5.63 These objectives are intended to ensure that DSOs operate in a transparent, accountable, and forward-looking manner, delivering benefits for consumers, the whole system, and the environment.

DSO network planning

Background

5.64 Through their RIIO-ED2 business plans, DSOs committed to investments in network monitoring, automation, and control systems. These upgrades support real-time visibility of network conditions, which is essential for planning under uncertainty and integrating flexibility. This has worked well to date, and by the end of RIIO-ED2 we expect the DSO to have demonstrated these capabilities, including improved network planning, forecasting, and flexibility integration. Progress so far has focused on:

- **Enhanced forecasting and planning** - DNOs must report on primary network forecasting accuracy and network options assessment outcomes, ensuring that Distribution Future Energy Scenarios (DFES) are embedded in planning decisions.
- **Flexible connections and curtailment management** - regular reporting on the uptake of flexible connections and curtailment levels is helping monitor how flexibility is being used to defer or avoid reinforcement.
- **Network visibility and data** - new reporting metrics (eg secondary network visibility, transformer utilisation) aim to improve transparency and enable more granular planning.

5.65 These developments are intended to support a more dynamic, flexible electricity system that can accommodate net zero ambitions while maintaining reliability and affordability.

5.66 However, in ED3, with the introduction of spatial plans and the need to see a more proactive and strategically planned approach to long-term network investment, the role of the DSO in network planning will need to change.

5.67 A key enabler of this role change is the RESP, which provides a framework for aligning DSO planning with broader system needs. The DSO role will need to evolve beyond its current operational and planning functions to reflect a more strategic, enduring role in whole-system coordination. This evolution is driven and supported by the increasing availability of strategic inputs such as the tRESP, enduring RESPs and SSEP, which will provide a clearer view of long-term system needs.

5.68 The DSO's planning responsibilities must also be underpinned by real-time data, digital tools, and enhanced visibility, enabling smarter, more responsive decision-making that reflects both local and system-wide priorities.

Proposed approach

5.69 For ED3 we think the DSO's role in network planning should be to lead the forward-looking coordination of investment and operational decisions for the DNO, ensuring that the network is prepared to meet growing and evolving demand - particularly in the context of rapid decarbonisation, decentralisation, and digitalisation.

5.70 We want the DSO to play a central, strategic role in planning their network on an enduring basis through the price control, ensuring that local energy systems are developed in a way that is proactive, data-driven, and aligned with whole system outcomes and strategic plans.

5.71 We therefore propose the scope of the DSO's responsibilities in network planning for ED3 includes:

- Supporting the creation of long-term integrated network development plan by identifying future system needs, set out by the tRESP (and enduring RESPs) and their own DFES, to coordinate investment across multiple drivers to ensure timely and efficient delivery of capacity (see section 3.8).
- Enhancing forecasting capabilities to better understand spatial demand growth, DER and CER uptake, and local hosting capacity. This includes identifying and planning for emerging localised constraint patterns. Strategic plans - including the tRESP, enduring RESP and the SSEP will be a key input here, with DSOs using these plans to support more informed and targeted decisions at the local level.
- Collaborating across the energy system including with NESO, local authorities, iDNOs, other DSOs, and across energy vectors; to develop coordinated, whole system plans that reflect regional and national priorities. This includes actively engaging in the development of spatial plans (RESPs and SSEP) and contributing relevant data and insights to support their delivery.
- Facilitating efficient connections by ensuring that network planning supports:
    - faster and more predictable connection times;
    - clear visibility of available capacity;
    - transparent publication of network availability and constraints; and
    - translating strategic plans into deliverable outputs with clear, measurable milestones to track progress and ensure accountability.

5.72 This scope reflects the need for DSOs to act not only as network operators, but as system planners and enablers, ensuring that local networks are ready to support the energy transition and deliver value for consumers and the wider system.

5.73 As the strategic inputs, such as the RESP and SSEP mature, each DSO's existing planning obligations such as publishing the Long-Term Development Statement (LTDS) and the network development plan, will need to be reviewed to ensure alignment with this longer-term, strategic focus. We will consider how these obligations should adapt to avoid duplication, improve consistency, and ensure that DSO outputs support whole system planning and investment decisions.

Consultation questions

Q60. Do you agree with our proposed scope for the DSO's role in network planning for ED3, including leading long-term integrated development planning and enhancing forecasting? How should DSOs ensure that future iterations of these plans align with emerging strategic inputs such as the Regional Energy Strategic Plan (RESP) and Strategic Spatial Energy Plan (SSEP) when they become available?

Q61. How should DSOs best coordinate with other parties (eg NESO, local authorities, iDNOs, gas networks) to deliver whole-system outcomes through network planning? Are there specific governance or data-sharing arrangements that should be strengthened?

Q62. What additional data, digital tools, or visibility improvements are needed to enable DSOs to deliver proactive, spatially targeted network planning in ED3? Please provide examples of gaps or best practices.

Q63. How should DSOs incorporate flexibility services and connection process improvements into their network planning approach to ensure timely, efficient, and predictable connections? Should this be incentivised, and if so, how?

Flexibility

Background

5.74 In our Framework Decision we confirmed that the DSO function would be retained for ED3 but would need to evolve. Instead of taking a 'flex first' approach, we described the need for DNOs to plan and build their networks proactively. As a result, we said that in ED3 DNOs should not use flexibility to defer investment until it is needed 'just in time'.

5.75 In subsequent engagement, some stakeholders raised concerns about this position, requesting clarity on the enduring role and value of DNO flexibility and how we envision DNOs using flexibility in practice in ED3, among other things.

Proposed approach

5.76 Ofgem is fully committed to creating a smart, flexible energy system. This is one of our key priorities in our multi-year strategy and has been reiterated in the joint Clean Flexibility Roadmap, which includes renewed ambition and new actions for Ofgem on flexibility. DNO flexibility is a key part of that - and we can confirm that DNO use of flexibility will remain a critical tool for DNOs in ED3 and beyond.

5.77 We have been clear throughout this document, that a priority for ED3 is that DNOs build out their networks so that are ready for the steep increase in

electrical demand that will come in the 2030s. This emphasis on build however should not be seen as downplaying the importance of flexibility.

5.78 In ED3, DNOs will need to respond to evolving consumer behaviours during a period of demand growth. We will be designing the price control to drive high levels of consumer service, including improvements in connection times and service, and we will continue to expect good levels of reliability. DNOs are likely to need to make use of flexibility to deliver these outcomes. Therefore pitting network build against flexibility is a false dichotomy: unlocking the smart, flexible energy system that is required for the energy transition requires DNOs to do both.

5.79 DNOs should proactively plan and build their network to ensure network headroom capacity stays ahead of need. This will be important to ensure that the distribution network does not become a blocker to the uptake of CER and DER and so that distributed assets can access and be utilised by the wider system.

5.80 We also expect DNOs to use flexibility for several important use cases in ED3, which, while not an exhaustive list, demonstrates the value that DNO flexibility will continue to provide:

- For network operations - to manage outages and faults and reduce the risk that customers lose access to the network during planned and unplanned outages. We see this as one of the most important use cases for flexibility in ED3 and note that over the course of RIIO-ED2 approximately 80% of the flexibility that DNOs have procured is for operational purposes.[55]
- To support the delivery of consumer outcomes - notably rapid connection times where network build out cannot happen fast enough, or to smooth a programme of network reinforcement, to avoid supply chain constraints or an inefficient spend profile. In the case of the latter however, DNOs should not be using flexibility to defer the delivery of infrastructure that has been planned for ED3 into future control periods.
- To reduce curtailment - using demand turn-up to reduce curtailment of low carbon generation.
- Where flexibility is the enduring solution - there may be some instances where flexibility is identified as the permanent alternative to network reinforcement. In practice, we expect this to be rare in ED3 and would

[55] Based on Ofgem analysis of distribution flexibility services procurement reports, submitted as required under Standard Licence Condition C31E.

expect DNOs to identify and justify these instances in their business plan submissions.

5.81 We note that these use cases will be incentivised by the outcomes we are seeking to achieve, rather than incentives on the use of flexibility itself. We welcome views as to where this may not be the case, and how to improve alignment.

5.82 Providing extra capacity on a short-term basis (lasting up to a few years) through DNO-procured flexibility (flexibility services) while the network is being upgraded may provide long term consumer benefit. We see a potential risk however that flexible connections, including under active network management (ANM) schemes, could be prioritised at the expense of network build, and that consumers end up paying more. We want to avoid this outcome and are keen to understand how it can be managed.

5.83 Similarly, some stakeholders have flagged coordination challenges between NESO and DNOs in relation to ANM or network limits and flexibility market participation, often due to lack of operational data exchange. We are aware that there are various projects underway to understand and address this issue (eg primacy rules, inter-control room protocols, Megawatt Dispatch).[56] In addition, there are existing RIIO-ED2 (DSO Incentive Baseline Expectation 2.1.1) and proposed ED3 obligations (see Paragraph 5.32). We are keen to understand the scale of the problems at present, the extent that projects in train and existing obligations are already resolving them and whether further measures should be introduced for ED3.

5.84 More broadly, to implement our proposed approach to flexibility for ED3 we believe changes are needed to the Common Evaluation Methodology (CEM). We would like DNOs to jointly update the CEM tool to ensure it is consistent with the approach to flexibility in ED3, including identifying if changes are required to the underlying Ofgem cost benefit analysis (CBA) methodology, discussed in more detail in the Cost assessment Annex.

5.85 In the context of the wider changes to how LRE will be funded we will be seeking to make changes to ensure that DNOs do not use flexibility to defer investment, unless there is a clearly evidenced case to do so. We welcome input from DNOs as to how this is best achieved.

[56] Megawatt Dispatch | National Energy System Operator

Options considered but not proposed

5.86 We considered whether further changes were required to funding arrangements or incentives to reflect the evolution in position on flexibility for ED3. We believe that the proposed incentive and funding arrangements for ED3 are well aligned with our proposed approach to how DNOs should use flexibility - IIS, BMCS and connections incentives offer strong incentives on DNOs to deploy flexibility where it is efficient and economical.

5.87 We welcome stakeholder views on whether further incentives are required to incentivise and encourage the use of flexibility in line with our approach. This could include for instance changes to the DSO incentive, which is discussed more in the relevant section below.

Consultation questions

Q64. Do you agree that changes are required to the CEM tool to implement our proposed approach in ED3? Are any other changes needed?

Q65. How can we best ensure that flexible connections aren't deployed at the expense of network reinforcement?

Q66. How can we best ensure that DER/CER are not prevented from accessing wider flexibility markets due to the use of ANM or lack of NESO-DSO coordination?

Q67. Are further incentives required to incentive and encourage the use of flexibility in line with our approach for ED3?

Voltage management

Background

5.88 Voltage is becoming increasingly difficult to manage across electricity networks, causing issues for network operation and creating barriers to clean power and the energy transition. High voltages on the distribution network are reportedly causing devices such as electrical vehicle chargers and photovoltaic inverters to disconnect, impacting the operation of existing devices and potentially acting as a blocker to further rollout. Managing higher voltages is also becoming increasingly costly for the transmission networks, in part due to the flow of reactive power from the distribution networks.

5.89 Keeping voltage within statutory limits is critical for the safe and reliable operation of electricity networks.[57] Aside from this, voltage management also provides important system security functions, through the provision of

[57] GOV.UK | The Electricity Safety, Quality and Continuity Regulations (2002)

emergency demand reduction as part of Grid Code Operating Condition 6 (OC6), and the provision of temporary demand reduction services to NESO.

5.90 We believe that the increased network build proposed in ED3, along with investment in improved voltage management, can contribute to:

- increasing flexibility and capacity on the system, both through supporting the rollout and operation of flexible low carbon assets, and by providing increased flexibility capacity through temporary demand reduction, as initially developed through the Electricity North West project Customer Load Active System Services (CLASS);[58]
- better system security, by both lowering the amount of reactive power transferred from the distribution to the transmission system and by providing better emergency demand reduction; and
- lowering consumer bills, by reducing the amount spent on balancing services and reactive power management and potentially through voltage management approaches such as those investigated by Electricity North West's Smart Street Project and Northern Powergrid's Boston Spa Energy Efficiency Trial (BEET).[59]

5.91 In the Framework Decision we set out that we expected that the DSO function would need to evolve, including improving operational efficiency through optimising voltage management. Since this decision, in the Clean Flexibility Roadmap, we also have committed to clarifying the role of voltage management for providing flexibility capacity for clean power and net zero.

5.92 In RIIO-ED2, we permitted DNOs to provide flexibility capacity to NESO through voltage management as a Directly Remunerated Service (in the category DRS8, with revenue split evenly between DNOs and customers). NESO procured these services competitively as part of its residual balancing role. We expected this to deliver growth in the number of DNOs offering this service during RIIO-ED2, which has not proven to be the case. This, coupled with the flexibility targets of the Clean Flexibility Roadmap, means that a different approach is needed for ED3.

5.93 We are therefore proposing a clear role for the DSO in ED3 to take on new responsibilities for voltage management, including providing flexibility capacity.

[58] Electricity North West | Customer Load Active System Services (CLASS) project
[59] Electricity North West | Introducing the Smart Street project, Northern Powergrid | Boston Spa Energy Efficiency Trial (BEET)

Proposed approach

5.94 We are proposing that the role of the DSO should be expanded to include new responsibilities for improving the management of voltage on the distribution network. These responsibilities fall into three categories:

5.95 Improving Monitoring

- Improve DSO/DNO awareness of voltage issues on the distribution network and potential impacts of the operation of the distribution network on the transmission network.
- Understand the voltage headroom and footroom available across primary substations including, in real-time, the flexibility capacity available from temporary voltage reduction.
- To improve understanding of voltage issues at customer premises, DSOs should utilise data from the rollout of monitoring capacity achieved in RIIO-ED2, supplemented with voltage data recorded through smart meters and 3rd party assets such as EV chargers.
- In line with the digitalisation and data expectations outlined above, voltage data should be used to predict voltage deviations and potential associated loss events, simulate the impact of alternative network configurations and allow for the development of proactive solutions to voltage issues.

5.96 Enhancing Management

- Improve ability to control voltage across the primary network, keeping voltage within statutory limits at all times (excluding where excursions are permitted in statute) across the network and eliminating interruptions to the operation of flexible assets due to voltage issues through investment in assets such as Automatic Voltage Controllers and communication links to control rooms, optimising voltage levels to minimise DER curtailment caused by voltage issues.
- Enhance provision of rapid emergency demand reduction through voltage reduction, where this is provided as part of the DNOs' obligations under Grid Code OC6, with a target of providing these reductions within five minutes of a request from the NESO.
- On the secondary network, deliver targeted interventions at areas of the network which are consistently at the higher or lower end of the statutory voltage range. This will unlock voltage headroom and footroom, through investment in voltage regulation relays, capacitor banks, or secondary transformer on-load tap changers (where appropriate).

- Reduce reactive power injection onto transmission network, for example by improving capacity of control rooms to call on DER power factor control or through the use of tap-staggering at primary transformers, with the aim of keeping reactive power within a power factor envelope of 0.95 lead to 0.95 lag at the Distribution/Transmission boundary. We recognise that it may be also appropriate for this requirement to be included in the Grid Code.

5.97 Providing Flexibility: We expect DSOs to endeavour to temporarily reduce voltage as needed at primary substations as a form of flexibility to contribute to network balancing, we are considering four options for when this service might be requested:

- Option 1 - The service is available to NESO on request, with no restrictions on when or how frequently it can be called (beyond any technical limitations such as recovery time).
- Option 2 - NESO is permitted to call on the service on a more limited basis, such as when the system capacity falls below a set threshold, or when the cost of balancing services rises above a set threshold.
- Option 3 - DSOs make their best endeavours to lower voltage during the peak hour for demand each day (likely 17:00-18:00 in summer and 16:00-17:00 in winter), [60] unless requested to take no action by NESO.
- Option 4 - A combination of Option 3 with either Option 1 or Option 2.

5.98 For each option we are proposing the introduction of a new incentive which will reward DSOs for the provision of this flexibility. We expect this would provide up to 1 GW of flexibility capacity during winter.

5.99 For each of the proposed new DSO responsibilities for voltage management, we would intend to set targets and performance metrics. We have set out many of these above, such as the elimination of interruptions of flexible assets where these are caused by voltage issues, keeping reactive power injection within an envelope of 0.95 lead to 0.95 lag, and completing the voltage reductions requested through OC6 within 5 minutes of the request. We are seeking stakeholder views on the appropriateness of these targets, what additional targets we should consider, and how these should be incentivised and/or codified.

[60] Demand reduction through voltage management achieves optimal results when used for up to 30 minutes, so this option would require splitting the magnitude of the response in two to ensure that it was sustained across the hour.

5.100 In our upcoming business plan guidance, we will set out a requirement for DSOs to publish a voltage management strategy. This will detail how these outcomes will be achieved during the ED3 period, with the expectation that progress will be reported on annually.

Options considered but not proposed

5.101 Prior to finalising our proposed delivery method for the 'Providing Flexibility' responsibility, we considered the following:

- Continuing, as we had permitted in RIIO-ED2, to allow the provision of temporary demand reduction services to NESO as a DRS in ED3. Although this option is well-understood, particularly regarding interactions with the wider flexibility sector, we do not believe this option is likely to deliver growth in the flex service sector in ED3 having not being adopted across multiple DNOs as we had anticipated during RIIO-ED2.[61]
- Allowing the provision of temporary demand reduction services to NESO as a DRS, with an additional price control incentive on DSOs. This option potentially improves the business case for investment by DSOs which could lead to more growth, but in our consideration, it would not be in the interest of consumers to provide an additional incentive where DNOs are already being renumerated for providing these services.
- Proposing a new NESO Market for the provision of temporary demand reduction services to NESO to provide more long-term certainty. This option would not likely meet non-discrimination requirements, and, given the size of current CLASS offering, we think it would be hard to justify a request to NESO to create a bespoke market.
- Allow for the provision of temporary demand reduction services to NESO as a DRS in both ED3 and ED4 to provide longer term certainty for investment. This option would potentially increase the likelihood of investment, but we do not believe it is proportionate to pre-judge the system needs for a future price control period.

Consultation questions

Q68. Do you agree with the proposed voltage management responsibilities, for DSOs? Are there any aspects you disagree with, or any additional responsibilities we should consider?

[61] One DNO, Electricity North West, provides these services to NESO in RIIO-ED2.

Q69. In your view what would be appropriate metrics or KPIs by which the success of delivery of these responsibilities could be measured? For each of these metrics or KPIs, should this target be codified in a licence condition or otherwise incentivised?

Q70. How can we support DSOs in getting access to useful 3rd party voltage data from assets such as EV chargers?

Q71. Do you support our proposal to include the reduction of reactive power injection on the transmission from distribution networks? Are there additional implications of this on the operation of distribution networks we should consider?

Q72. For each of the options outlined for Providing Flexibility what are the advantages and disadvantages, and which would be your preferred option, including any that we have not considered?

Q73. Do you have any comments on the proposal for the creation of a new incentive for the provision of flexibility through demand reduction?

Q74. Do you support the requirement for a published voltage management strategy from each DSO, with an annual reporting requirement?

Losses

Background

5.102 Historically, Ofgem has recognised the importance of managing distribution losses due to their financial and environmental impact. Under RIIO-ED1, we introduced the Losses Discretionary Reward (LDR), a mechanism worth up to £32 million across all DNOs, split into three tranches over the eight-year price control.

5.103 The LDR aimed to incentivise DNOs to take additional actions to better understand and manage losses and to go beyond business-as-usual activities. The focus included: developing a deeper understanding of losses (technical and non-technical), engaging stakeholders and sharing best practice, and implementing innovative approaches and embedding them into business as usual.[62]

5.104 In addition, Standard Licence Condition (SLC) 49 requires DNOs to ensure that distribution losses are kept "as low as reasonably practicable". This obligation includes maintaining and acting in accordance with a Distribution Losses Strategy, which must be regularly updated to reflect new evidence, stakeholder feedback, and lessons learned.[63]

[62] LDR: losses_discretionary_reward_guidance_document_1.pdf
[63] DCUSA: DCUSA_decision_letter_template

5.105 To date, reducing losses has proven challenging for several reasons:

- Measurement issues - Accurate and consistent measurement of losses across DNOs has been problematic since settlement-based reporting was discontinued in 2010 due to inaccuracies and comparability issues.
- Complexity of influencing factors - Losses are affected by network design, load growth, distributed generation, and consumer behaviour, making it difficult to isolate the impact of specific interventions.
- Cost-benefit trade-offs - Many loss-reduction measures (eg low-loss transformers, conductor upgrades) involve significant capital expenditure, which may not always be justified when assessed against consumer benefits.
- Non-technical losses - Theft and unregistered supplies remain difficult to detect and address, requiring coordination between DNOs, suppliers, and law enforcement.

5.106 The LDR delivered some positive outcomes, such as improved understanding of losses, enhanced modelling, and stakeholder engagement. However, its overall impact on actual loss reduction was limited:

- Ofgem decided not to award any funding in the final tranche (2020), citing insufficient evidence of material progress beyond business-as-usual activities.[64]
- While DNOs developed strategies and trialled innovative approaches, the mechanism did not drive significant, quantifiable reductions in losses across the sector.

5.107 Distribution losses, both technical and non-technical, account for approximately 5–8% of electricity distributed,[65] contributing significantly to system costs and carbon emissions. As the energy system becomes increasingly electrified, effective management of these losses is critical. Rising electricity demand is driving higher network utilisation, which in turn can lead to greater absolute losses. This shift underscores the need to reassess how losses are monitored, managed, and mitigated.

5.108 In our Framework Decision we said that the responsibility for dealing with the challenge of network losses would move to the DSO and that we would consider how to strengthen the requirements on losses management. Through RIIO-ED2,

[64] RIIO-ED1: Losses Discretionary Reward for tranche three, 2020
[65] The range of distribution losses is an approximate figure across all DNOs based on their 2023/24 annual environment report and DNOs ED2 losses strategy.

the DSOs are gaining enhanced capabilities through LV monitoring and forecasting. These tools will enable DSOs to leverage real-time data and insights into their networks, which in turn will enable a greater focus on losses.

5.109 We are therefore exploring how losses should be integrated into the broader DSO policy framework, including their role in network planning, flexibility procurement, and operational decision-making.

5.110 As part of early engagement on ED3 Smarter Networks: DSO – Distribution Losses, we received informal written responses from several DNOs and stakeholders. The following summarises key themes and insights:

- Balancing losses with network priorities
    - DNOs currently factor losses into investment decisions via CBA tools, though losses are rarely the primary driver.
    - Stakeholders emphasise the need for losses to be considered more explicitly in operational trade-offs, particularly as network utilisation increases.
- Role of flexibility
    - Mixed views on the impact of flexibility: some DNOs note increased losses due to higher asset utilisation, while others highlight potential benefits from peak shaving and local balancing.
    - Stakeholders have highlighted the importance of aligning flexibility services with loss optimisation, noting that where flexibility is used to defer network investment, it can lead to increased system losses due to higher asset utilisation. In the context of ED3, where the strategic aim is to deliver efficient, long-term outcomes, losses provide an additional rationale for ensuring that flexibility is not used as a substitute for timely and necessary investment.
- Innovation and best practice
    - DNOs have trialled various innovations including LV monitoring, voltage optimisation (eg CLASS, EcoVAR), digital twins, and machine learning tools.
    - There is support for sector-wide collaboration and knowledge sharing, with calls to re-establish ENA working groups on losses.
- Data, measurement and transparency
    - All parties acknowledge challenges in measuring LV losses due to limited visibility, metering inaccuracies, and data granularity.

- There is broad support for a standardised modelling approach, though caution remains around using measured losses for financial incentives.

- Incentives
  - DNOs are generally cautious about reintroducing direct financial incentives due to complexity and externalities.
  - Whereas other stakeholders strongly advocate for either a financial incentive or a discretionary reward to reinvigorate focus on losses, noting reputational incentives have proven insufficient.
- Strategic recommendations by stakeholders.
  - Update CBA methodology to reflect full system costs of losses, including peak impacts.
  - Scrutinise DNO losses strategies as part of business plan assessment.
  - Consider integrating losses into broader DSO incentives to avoid siloed approaches.

5.111 We took this feedback into account as we developed our position for DSOs role in losses as part of this consultation.

Proposed approach

5.112 We consider that our approach to tackling losses in ED3, could take either of two conceptual approaches: one that is focussed on loss reduction, the other that seeks instead to optimise losses.

5.113 Loss reduction is concerned with achieving an absolute decrease in energy lost across the distribution network. It focuses on lowering the total volume of losses, often through infrastructure upgrades (eg low-loss transformers), theft prevention, or improved metering. While this can deliver environmental and financial benefits, it may not always be the most cost-effective or system-efficient approach, when you take into account a range of other factors and impacts, especially in a complex, evolving network environment.

5.114 On the other hand, loss optimisation is a data-driven approach that considers system-wide impacts of managing electricity distribution losses; both technical and non-technical; across planning, operational, and investment activities.

5.115 In doing so, loss optimisation recognises that some level of losses may be acceptable or even beneficial when it supports wider system efficiency, affordability, and decarbonisation. It allows DSOs to make informed trade-offs, balancing loss reduction against other factors such as:

- Cost of interventions

- Impact on network capacity and flexibility
- Whole-system benefits and consumer outcomes.

5.116 Loss optimisation involves quantifying and minimising the financial and environmental impacts of energy losses across the system. Loss optimisation ensures that decisions consider the marginal cost and benefit of reducing losses relative to other system needs. Loss reduction, however, purely focuses on reducing the absolute volume of energy lost (MWh), often through asset upgrades like low-loss transformers or thicker conductors. While the latter can deliver benefits, it does not account for trade-offs with other objectives such as cost, carbon, and flexibility.

5.117 Loss optimisation involves a range of measures, including:

- Integrating losses into network planning through enhanced cost-benefit analysis (CBA) methodologies that reflect the full system cost of losses, including:
  - energy procurement costs;
  - peak demand impacts; and
  - carbon pricing and emissions.
- Optimising voltage and power flows using smart technologies to reduce losses while maintaining system reliability and power quality.
- Aligning flexibility services with loss reduction objectives, ensuring that load-shifting decisions do not inadvertently increase losses or system costs.
- Improving visibility and measurement, particularly at the LV level, through innovation in:
  - monitoring and metering;
  - modelling and simulation; and
  - AI-driven analytics and predictive tools.
- Addressing non-technical losses (eg theft, metering inaccuracies) through targeted interventions, partnerships, and improved data governance.

5.118 We believe loss optimisation should play a central role in ED3 as it:

- supports the energy transition by reducing avoidable carbon emissions associated with energy waste;
- manages rising network utilisation driven by electrification of transport and heating;
- promotes holistic DSO evolution, avoiding siloed approaches and reinforcing the value of smarter, more responsive networks; and

- delivers consumer value by lowering system costs and improving reliability.

5.119 As we move towards ED3, we do not think a pure loss reduction approach will be the most suitable because it can lead to inefficient investment. Instead, we want DSOs to actively consider loss optimisation when making decisions across network planning, investment strategies, and the use of flexibility services. This means evaluating how different options impact system losses; not in isolation, but alongside other factors such as cost, capacity, carbon, and consumer value.

5.120 We propose that as a minimum we would expect to DNOs to set out in their Business Plans how they will incorporate loss optimisation into their network planning and operational efficiency decision making.

5.121 Unlike loss reduction, which can be expressed as an absolute decrease in MWh lost, loss optimisation requires assessing trade-offs across multiple objectives (cost, carbon, flexibility). This makes it more complex to measure and benchmark. We will explore whether a combination of qualitative assessment and model-based evidence could provide a proportionate way of identifying the effectiveness of DNO approaches, and we are interested to hear from stakeholders on how we could incentivise loss optimisation activities.

Consultation questions

Q75. Do you agree with the proposed working-level definition of loss optimisation as a cost-based, system-wide approach to managing distribution losses?

Q76. Do you support Ofgem's focus on loss optimisation over loss reduction in ED3? Why?

Q77. How should we embed loss optimisation into ED3 and what are some of the challenges with this?

Q78. What mechanisms should be used to monitor and assess DNOs' impact on network losses, and how can loss optimisation be embedded into planning, operational, and investment decisions under ED3?

Q79. Do you believe there is a case for introducing financial or discretionary incentives to encourage active loss optimisation by DSOs? If so, what form should these incentives take (eg direct financial, reputational, discretionary rewards), and what risks or complexities should be considered?

Q80. Are there additional strategic or policy measures you believe should be considered in ED3 to manage losses?

DSO incentive framework

Background

5.122 For RIIO-ED2, the DSO Incentive aims to drive DNOs to deliver efficient, flexible, and future-ready networks. It encourages:

- efficient network development under uncertainty;
- use of flexibility services as an alternative to traditional reinforcement; and
- market facilitation for DER.

5.123 Currently the DSO incentive is based on two parameters:

- The Stakeholder Satisfaction Survey which intends to drive DNOs to become more responsive to their stakeholder needs and so improve service levels. The survey evaluates performance across five core areas: coordination with other network and system operators, data and information provision, flexibility market development, decision-making transparency, and network planning engagement.
- The DSO Performance Panel assessment, which provides an expert, independent assessment of DSO activities and help reduce the information asymmetry between DNOs and Ofgem. The DNOs are assessed on five weighted criteria: Delivery of DSO benefits (30%), Data and information provision (20%), Flexibility market development (20%), Options assessment and conflict mitigation (20%), and DER dispatch decision-making framework (10%).

5.124 To support these assessments, DNOs are also required to submit Regularly Reported Evidence (RRE) as outlined in Annex 4 of the RIIO-ED2 DSO Incentive Governance Document.[66] While not used as direct performance metrics, RREs provide critical context for evaluating DSO activities.

5.125 The seven reporting areas are:

- Flexible Connections – Use of flexible connections to defer or avoid reinforcement.
- Primary Network Forecasting Accuracy – Accuracy of demand and generation forecasts.
- Transformer Utilisation – Efficiency of transformer loading and capacity margins.

[66] DSO-Incentive-Governance-Document_v1.2.pdf

- Network Options Assessment Outcomes – Evaluation of network and non-network solution choices.
- Secondary Network Visibility – Monitoring and data availability on the low-voltage network.
- Curtailment – Extent and impact of curtailing flexible resources.
- Flexibility Deferral – Evidence of flexibility services deferring traditional investment.

5.126 Together, these mechanisms ensure a balanced evaluation of both stakeholder experience and technical performance.

5.127 For ED3, the principles underlying the roles and responsibilities of the DSO remain critical as decarbonisation accelerates and flexibility markets mature. The incentive framework will need to reflect whole-system coordination, digitalisation, and consumer value.

Proposed approach

5.128 With the changing responsibilities of the DSO (as set out in the previous sections), and as the energy system is rapidly transforming, we believe the DSO incentive needs to adapt to respond to the new roles and expectations of the DSO, but we are not proposing any specific changes to the DSO incentive at this time. We want to use this consultation to seek stakeholder views and input on how we could amend the DSO incentive framework for ED3.

5.129 At a high level, we think the ED3 DSO Incentive Framework should aim to:

- promote enhanced forecasting and long-term planning;
- promote whole-system coordination across transmission, distribution, and local energy systems;
- support the maturation of flexibility markets, ensuring accessibility, liquidity, and transparency;
- support DSOs to deliver greater operational efficiency to support lower system costs and improved reliability; and
- encourage outcome-based performance, moving beyond process metrics.

5.130 The existing RREs, covering flexible connections, forecasting accuracy, transformer utilisation, network options assessment, secondary network visibility, and curtailment; remain highly relevant from an ED3 perspective. These metrics provide valuable insight into DSO performance and system efficiency. However, as the energy system evolves, there is a clear need for further refinement to ensure these evidence items reflect ED3 priorities, and

potential new DSO roles, so we consider new RREs will need to also include information on losses and voltage management.

5.131 Some aspects of DSO functionality are already incentivised through other regulatory mechanisms, which should be acknowledged in the design of the DSO incentive framework for ED3. For instance, the connection incentives encourage the use of flexibility to accelerate customer connections, while the IIS indirectly promotes the use of flexibility to manage faults and maintain reliability. These natural overlaps highlight the importance of ensuring that the DSO incentive remains complementary, rather than duplicative, and that it focuses on areas where targeted incentives can drive additional value.

5.132 However, we are aware that we may also need to introduce some new incentives on voltage management and loss optimisation (set out in previous sections) and would be interested in views on whether these should be managed through a DSO incentive or stand-alone incentives.

5.133 We recognise that the DSO role is becoming more proactive, particularly in areas such as network planning, operational use of flexibility, and the development of competitive flexibility markets. These changes raise important questions about how incentives should evolve to ensure they remain effective, proportionate, and aligned with consumer value.

5.134 We are seeking stakeholder views on:

- How the DSO Incentive should adapt to reflect the amended responsibilities of the DSO.
- The most appropriate balance between qualitative (eg stakeholder feedback and panel assessments) and quantitative (eg outcome-based) measures.
- Whether additional metrics should be introduced to capture performance in flexibility market development, whole-system coordination, and digitalisation.
- How to ensure the incentive remains complementary to other mechanisms and avoids duplication.

5.135 Stakeholder input will inform the design of the ED3 DSO incentive framework, ensuring it drives behaviours that deliver efficient, flexible, and consumer-focused networks.

Consultation questions

Q81. Do you agree that the proposed aims for the DSO incentive framework appropriately reflect the core functional areas for ED3 (flexibility services, network

planning, voltage and loss management)? Are there any additional priority areas that should be included, and how should these be measured?

Q82. How should the incentive framework evolve to reflect the DSO's more proactive role in network planning, operational use of flexibility, flexibility market development, and whole-system coordination?

Q83. Are the current parameters (Stakeholder Satisfaction Survey and Performance Panel) an effective way of measuring DSO performance? How do you view the role of Regularly Reported Evidence (RRE) in complementing these assessments?

Q84. How can the DSO Incentive be designed to complement, and not duplicate, other mechanisms such as the Connections Incentive, BMCS and the Interruptions Incentive Scheme?

6. Resilient networks

Introduction

6.1 Britain has one of the most reliable energy systems in the world. But accelerating electrification will elevate new risks. Every new heat pump, electric vehicle and data-driven service deepens our dependence on uninterrupted power, even as the hazards confronting the system grow sharper and more complex. Climate extremes are becoming more frequent and severe, testing the physical limits of networks built for a stabler past. At the same time, cyber threats are multiplying as networks digitalise, and global supply chains for critical components are stretched, with lead times for some transformers, cables, and wood poles now measured in years instead of months. This convergence of rising exposure and intensifying risk demands electricity networks that can absorb bigger shocks, adapt to change and energise our economy.

6.2 Against this backdrop, ED3 must change how we plan, fund and hold companies to account for network resilience. This means moving beyond incremental improvements to a whole-system approach that anticipates risks, embeds flexibility, and ensures that resilience is integrated into every aspect of network operation and investment. Our proposals in this chapter span the full spectrum of resilience challenges:

- **Network Asset Risk Metric (NARM)** - to keep asset health investment decisions robust and evidenced, with stronger data assurance and clearer accountability for delivering stated plans.
- **Climate resilience** - to set a long-term goal, introduce network stress testing, and develop metrics that future-proof investment while aligning with emerging government standards.
- **Reliability** - to evolve incentives beyond averages, tackling short, long and multiple outages and worst-served areas, while protecting consumers from severe weather and reviewing the VoLL.
- **Resilience reopener** - to provide a proportionate route for funding when new resilience standards, evidence or systemic risks emerge.
- **Cyber security** - to maintain compliance with NIS Regulations while reducing regulatory burden, through holistic plans, upfront allowances and streamlined reporting.

- **Supply chain and workforce** - to ensure DNOs deliver what consumers fund (safely, efficiently, and on time) through credible delivery strategies that improve market visibility and support early mobilisation.

6.3 Resilience is a system property that depends on the interplay of assets, operations, people, and governance. Our approach reflects this reality: a coordinated package of measures designed to protect consumers, enable the energy transition, and maintain public trust in our energy system.

Consultation question

Q85. Are there additional risks, dependencies or policy areas that we should consider strengthening network resilience in ED3 beyond those set out in this chapter?

Network Asset Risk Metric (NARM)

Background

6.4 Network and asset resilience is a key component of network regulation, and strong asset stewardship is essential to maintaining the stability and reliability of the energy networks. In an integrated and dynamic energy system, decision-making is increasingly complex and requires consideration of numerous interdependent and evolving factors. It is therefore vital that we continue to build on our understanding of network health and ensure that today's infrastructure provides a robust foundation for tomorrow's energy system.

6.5 Our primary regulatory approach to ensuring asset health interventions is delivered through NARM. It is built on two broad concepts, the Probability of Failure (PoF) and Consequence of Failure (CoF), and quantifies the risk of network asset failures and the benefits to consumers of asset interventions, such as replacement and refurbishment, in terms of the risk reduction they deliver.

6.6 NARM aims to simplify some of the complexity of asset management decisions and is used as part of a toolbox approach to justifying and assessing network companies' investments and has been developed in collaboration with industry. It also ensures that companies are held accountable for their asset management decisions.

6.7 Our Framework Decision confirmed that NARM remains a vital tool for ensuring DNOs deliver safe and reliable networks, and we acknowledged stakeholder support for expanding NARM's scope. We recognised that this should be well-considered to preserve NARM's credibility and robustness, and stakeholders suggested a few ways this could be achieved.

6.8 We have made significant progress in refining data reporting within NARM during RIIO-ED1 for RIIO-ED2, with efforts focused on ensuring consistency and comparability across the ED sector. This includes developing the Common Network Asset Indices Methodology (CNAIM), the Good Practice Guide (GPG), and Information Gathering Plans. Despite these advances, high-quality, robust asset data remains critical to the integrity of the NARM framework.

6.9 In our Framework Decision we expressed an ambition to strengthen NARM's credibility through enhanced data assurance, and we committed to explore how data assurance processes can be developed to ensure that inputs to NARM are subject to scrutiny.

6.10 Our Framework Consultation sought views on whether a more prescriptive approach to NARM could improve accountability for delivering asset health plans. To ensure delivery, we also aim to review whether full flexibility to trade risk between interventions in NARM remains appropriate, and whether it effectively captures synergies and long-term delivery efficiencies.

6.11 Maintaining network reliability and resilience in the face of emerging risks, particularly those driven by climate change, requires continuous improvement in our risk assessment capabilities. In our Framework Decision, we committed to exploring how future climate impacts on asset deterioration could be incorporated into the NARM framework.

6.12 We also committed to developing a more sophisticated framework and that asset health plans should be developed alongside long-term network development plans, and respondents to our consultation highlighted the need to recognise synergies and interactions. When asset replacement and refurbishment decisions are made, we expect network companies to demonstrate that future network needs have been fully considered, and we aim to explore how best to achieve this.

Proposed approach

Adopting new assets

6.13 Currently in RIIO-ED2, approximately 75% of all asset replacement and refurbishment expenditure is captured by NARM (excluding associated civil works) through 61 of 104 reportable asset categories. Asset categories which are not currently covered by the NARM framework are referred to as non-NARM assets. Non-NARM assets include (but are not limited to): LV services, cut outs, HV pole mounted switchgear, LV/HV/EHV overhead line conductors, substation batteries, and HV pole mounted transformers.

6.14 In the RIIO-ED2 SSMC we set out our ambition to develop approaches for non-NARM assets and identified ways to achieve this. At the time, we recognised the significant challenges of adopting new assets into NARM and decided not to expand NARM's scope in RIIO-ED2 and instead focused on improving reporting consistency and scope alignment across the sector. However, we are relooking at this ambition for ED3.

6.15 Challenges to adopting non-NARM assets into NARM remain significant. These include insufficient asset-level or population-level data, a lack of robust risk models, or a limited understanding of asset deterioration. Since these assets sit outside of the NARM framework, allowances that we set in these areas are not linked to specific outputs or delivery targets, making it difficult to monitor and assess DNO performance.

6.16 We recognise that assets within NARM require high-quality asset data and robust risk models to facilitate the NARM objectives, and that some asset types may not be suitable against the modelling requirements. For this reason, incorporating all remaining asset classes into the current NARM framework may not be appropriate.

6.17 To continue progressing, we believe alternative approaches for setting outputs and reporting frameworks should be developed for these remaining assets.

6.18 We propose to ring-fence the current NARM framework and asset categories and introduce different approaches for non-NARM assets. This approach preserves the credibility of the existing framework while enabling us to build on our understanding of the remaining asset categories.

6.19 For assets where risk models can be developed, albeit potentially less robustly or where data is limited, we propose a separate mechanism. This would apply the CNAIM principles to these assets but may not calculate the full risk or may require further model calibration. Outputs would be linked to interventions, and we seek views on whether these should be expressed in terms of risk or volumes.

6.20 These assets and models would be governed by a separate methodology document and potentially have different rules from the core NARM framework, such as alternative deadbands. This mechanism would act as a testing ground to determine whether these models can eventually transition into the main NARM framework. However, if suitable risk models can only be developed for a small subset of assets, the effort required to develop, regulate, and report on this separate mechanism may outweigh the benefits.

6.21 For assets where risk models based on the CNAIM principles may never be feasible, we propose that DNOs adopt a standardised approach to reporting asset health. Recognising that CoFs can be difficult to model, this reporting could focus on asset condition, supported by key PoF models.

6.22 Both proposals ensure continued improvement in understanding and reporting asset health, particularly for complex assets such as civil infrastructure. Standardised health reporting would also support better asset management decisions and provide justification for investment proposals.

Enhancing data assurance

6.23 NARM is primarily data driven. Network companies collect observed and/or measured asset condition data, which feed into the CNAIM models to calculate network risk and the risk benefit delivered by interventions. Robust, accurate data from licensees is essential for us to fulfil our regulatory role effectively.

6.24 The Data Assurance Guidance (DAG) requires licensees to conduct annual risk assessments on the data they submit to us, report risk scores, and outline their action plan to us. The assessments consider both the potential impact of incorrect data and the likelihood of errors.

6.25 While the DAG places responsibility on licensees to ensure data integrity, we believe additional assurance is needed for assets reported in NARM, to confirm that condition and measurement data accurately reflects reality. As this data underpins risk calculations and investment justifications, it must be subject to further scrutiny.

6.26 In our Framework Decision, we committed to considering a data audit process to strengthen confidence in NARM.

6.27 Currently, NARM data is reported at an aggregated asset category level. Requiring companies to audit their NARM assets would verify that reported data accurately reflects the true condition of the assets.

6.28 A successful audit would confirm that condition point data collected by DNO inspections aligns with audit findings and Good Practice Guide standards. Insights from audits also help companies improve their processes.

6.29 One key consideration is audit independence. Our current thinking would be to require network companies to plan for independent audits to ensure fairness, objectivity, and credibility. However, we remain open to alternative approaches around how these audits could be carried out and we welcome stakeholder views on this.

6.30 A second consideration is audit scope. Stakeholders have emphasised the need for proportionality - audits should target the most critical and high-impact areas rather than treating all asset categories equally. At the same time, audits must avoid blind spots or bias.

6.31 A third consideration is audit frequency and timing. We propose that audits take place annually and align with each licensee's inspection regime as set out in its Information Gathering Plan. However, we see merit in requiring that most audits be completed in the third year of the price control, ensuring that data submitted in DNOs' ED4 Business Plans is backed by assured data.

Setting the NARM target

6.32 In the ED sector, the NARM target is set at a single level, giving DNOs flexibility to meet it by intervening across a mix of assets. Where companies fail to meet this target within a delivery deadband, a clawback mechanism applies, and unjustified under-delivery results in a penalty. Conversely, where over-delivery is justified, the company is made cost neutral for the additional risk reduction they deliver.

6.33 The ability to trade risk between asset categories is a core principle of the NARM framework. This flexibility allows DNOs to adapt to changing plans, emerging drivers, and new asset data and avoids the inefficiencies of locking in inappropriate interventions in their business plans.

6.34 ED3 marks a major shift in how DNOs will plan, justify and deliver their investments. We anticipate substantial changes in network investment over the next two decades, making proactive, strategic, and coordinated investment today essential for future readiness.

6.35 It is critical to strike a balance between delivering essential non-load interventions that maximise synergies across investment drivers while preserving the flexibility to respond to new information. At the same time, DNOs must provide greater certainty about future demand for equipment and workforce to reduce supply chain risks to delivering long-term network needs.

6.36 For ED3, we are exploring ways to hold DNOs more strongly to account for delivering their stated plans. Complete flexibility in NARM, however, risks undermining this balance, as a DNO could deliver a plan that diverges significantly from its business plan.

6.37 Respondents to our Framework Consultation suggested that NARM may incentivise prioritisation of the lowest-cost risk reduction, which may not align with long-term network needs. We are therefore considering whether the full

flexibility currently permitted under NARM remains appropriate, and whether introducing subsidiary target approaches could ensure delivery against specific categories while retaining adaptability.

6.38 Subsidiary targets could be set by voltage levels, asset class, or a mix of both. We will use historic reported data to analyse whether there are suitable categories. We are keen understand whether network companies have views on suitable categories and to explore how such an approach could be implemented effectively.

6.39 As we develop approaches to how networks will plan, justify and deliver LRE, we will need to consider how this can work alongside revised approaches to NARM. We welcome input from stakeholders as to how these approaches can work together to ensure best consumer outcomes and delivery of plans, whilst maintaining flexibility and adaptability for network companies.

NARM and climate change

6.40 Maintaining resilient networks requires a proactive and adaptable approach, one that responds to current challenges and anticipates emerging risks. As we deepen our understanding of asset risk, it is increasingly important to consider how asset resilience interacts with broader system resilience. One key area of focus is climate change.

6.41 Climate change introduces new and evolving challenges to network infrastructure. The NIC report, Developing Resilience Standards in UK Infrastructure (published 19 September 2024), recommended that NARM should account for increased asset deterioration caused by chronic stress linked to changing climate conditions.[67]

6.42 NARM is a monetised, condition-based measure of asset risk. It relies on observed and/or measured asset condition data, alongside other data points, to calculate current health scores and model future deterioration. The data collected on these assets reflect real-world conditions and, as such, the effects of weather-related asset deterioration are already captured within the CNAIM.

6.43 While weather impacts on asset deterioration are already reflected in the CNAIM through condition data, we should also consider whether inevitable climate change will have a material impact on the rates of asset deterioration. In our Framework Decision, we committed to exploring how we might embed climate change resilience into existing regulatory tools.

[67] Developing resilience standards in UK infrastructure - NIC

6.44 Following this, network companies, through the ENA's NARM Electricity Distribution Working Group (NEDWG), have explored ways to incorporate future climate change impacts into the CNAIM models and have found a possible way to achieve this. The capability which has been proposed would specify a rate of deterioration to the models across different years and across different asset types.

6.45 However, while this capability has been proposed, the absence of a robust and evidence-based deterioration rate linked specifically to future climate change limits our ability to confidently specify into the CNAIM at present. Further work is needed to assess whether the impact of climate change upon asset deterioration is required. We will continue to engage with technical experts and stakeholders to evaluate the potential impact of climate change across different asset types and timeframes, and to determine whether these effects can be quantified.

6.46 In the meantime, we propose that DNOs build the capability to model future climate impacts within the CNAIM. This will ensure that, should credible evidence emerge during ED3, we are ready with appropriate mechanisms to reflect these risks within the regulatory framework.

Consultation questions

Q86. What are your views on setting outputs on additional asset classes not currently reported in NARM?

Q87. What are your views on our proposed approach to increasing our reporting on non-NARM assets to improve our understanding of asset health?

Q88. What are your views on our approach to enhancing data assurance on the data input into the NARM? Are there alternative ways we could enhance our data assurances processes?

Q89. What are your views on introducing subsidiary targets in NARM to hold DNOs accountable to their Business Plans? Are there other ways we could hold DNOs accountable?

Q90. Do you agree with our approach to enabling the future effects of climate change on asset deterioration to be modelled in NARM? Why?

Climate resilience

Background

6.47 Great Britain's electricity distribution network faces increasing risks from climate change, including more frequent and severe extreme weather events. Data from UK Climate Projections 18 and recent extreme weather events such as Arwen,

Darrugh and Eowyn, which had severe impacts across the UK, highlight the urgency of strengthening system resilience.[68] In our Framework Decision we committed to addressing these risks through a more strategic, long-term approach to climate resilience.[69]

6.48 A recurring challenge in embedding climate resilience is balancing the urgency for action against the underlying barriers to progress, such as lack of clarity on a goal and no consistent approach on measurement and valuation of resilience or consideration of high impact, low probability (HILP) events. Many of these issues are complex and may take time to address and increase our confidence in. However, given the urgency of embedding climate resilience into investment decisions, it may not be appropriate to wait until the next price control period to implement these developments. To address this, we are proposing to take an iterative approach - introducing foundational tools now, while allowing for refinement over time.

6.49 Current regulatory tools, such as benchmarking and the IIS, do not adequately account for long-term or systemic climate risks. This has contributed to the risk of underinvestment in resilience measures and a lack of clarity around acceptable climate resilience standards. Without a defined goal or consistent metrics, it is difficult to justify and direct investment effectively.

6.50 As we advance this work, maintaining proportionality is essential. Underinvestment exposes the system to long-term vulnerabilities, while overinvestment or misallocation risks inefficiency and erodes public trust.

6.51 Our proposals aim to recalibrate this balance: ensuring investment is proportionate to risk, aligned with long-term objectives, and capable of futureproofing the network. This work is closely aligned with the government's emerging direction on resilience standards and is designed to support both regulatory and policy ambitions.

Proposed approach

6.52 To address the increasing risks posed by climate change and the limitations of current regulatory tools, we are introducing a strategic, long-term framework for climate resilience in ED3. This approach is designed to ensure that investment is proportionate to risk, future-proofed, and aligned with wider government ambitions.

[68] UK Climate Projections (UKCP18) - Met Office
[69] Ofgem | Framework decision: electricity distribution price control (ED3)

6.53 Our proposed approach includes five key actions:

- establish a long-term climate resilience goal, informed by phased stress testing and work to align with future government standards;
- hold network companies to account for delivering funded climate resilience activities, using tailored mechanisms based on investment type;
- strengthen the rationale for investment, with clearer guidance on linking business plans to strategic climate resilience objectives;
- review incentives and support development of technical standards, including potential updates to the IIS and alignment with technical standards; and
- enable in-period flexibility through a resilience reopener and Climate Resilience Metrics and Indicators (CRMI).

6.54 This proposed approach is designed to close resilience gaps while ensuring that investment decisions are evidence-based, proportionate, and aligned with long-term system needs.

Long-term climate resilience goal and stress testing

6.55 Our energy system must remain resilient to the growing impacts of climate change—both during the transition to clean power and in adapting to increasingly severe climate events. This requires clear, long-term resilience targets and investment in infrastructure that remains robust and aligned with a clean energy future, while avoiding investment in assets misaligned with that transition.

6.56 Currently, there is no overarching goal for climate resilience across infrastructure sectors, ie agreement on what is an acceptable level of resilience in the light of the changing climate. This lack of clarity hinders efforts to future-proof investments.

6.57 We recognised this gap in the Framework Decision and set out our aim to set a long-term climate resilience goal at ED3 SSMD. We noted that this would be informed by stress testing conducted by network companies by the end of 2025. This work has already started and will allow us to provide greater clarity on whether maintaining current levels of resilience is an appropriate goal by SSMD and an understanding of how investments may be justified (see Paragraphs 6.67 to 6.74 on improved rationale for investment).

6.58 We also noted the importance of alignment with government. Since then, as part of its ten-year Infrastructure Strategy, government has set out a roadmap

to delivering new resilience standards by 2030,[70] where risk from climate change is likely to be an important component. These are positive developments that should provide clarity on an acceptable level of resilience and ultimately inform what the long-term climate resilience goal should be across the sector. Given the urgency of influencing investment decisions in the transition to net zero to consider resilience, we consider that pragmatic actions must be taken now.

6.59 A defined goal should be informed by evidence that sets out the trade-offs between customer service levels and the costs of building resilience to HILP events. Evidence gaps remain, making it challenging for all stakeholders, as well as government, to make informed decisions based on these trade-offs and ensure these vital decisions are in the best interests of consumers.

6.60 Therefore, we propose a requirement for network companies to undertake stress testing across multiple phases to iteratively build capabilities. Our approach aims to strike the right balance between acting at pace to enable proportionate investment that reflects the urgency of climate risks and supporting government in closing information gaps to develop national resilience standards. The approach is twofold, distinguishing between:

- Immediate action - the introduction of stress testing by the end of 2025 with the aim of quantifying the investment needed to maintain current climate resilience levels by 2080.
    - This work has already started and we have developed a methodological framework in collaboration with DNOs, the Met Office and other experts. For more information see the document published alongside this document (Climate resilience stress testing methodological framework Annex). This work aims to provide greater clarity on whether maintaining current resilience levels is an appropriate goal, however we recognise that we may need to further build on this work before being able to provide a definitive answer.
    - We will continue to work with DNOs to help them use this information to inform adaptive pathways and provide qualitative justification for climate resilience investments in their business plans (see Paragraphs 6.62 to 6.89.)
- Long-term strategic developments – to build network company capabilities in a consistent way to allow comparisons including on system modelling of

[70] UK_Infrastructure_A_10_Year_Strategy_Web_Accessible.pdf

climate hazards and understanding system alternatives to asset hardening, as well as more transformative options. This will address priority information gaps to understand options, system implications and provide quantitative information especially on costs and also on understanding benefits (ie avoided costs). This in turn will help inform and refine acceptable levels of resilience (ie goals).

- This will link to other activities such as CRMI and NESO's emergency management functions. These phases will be introduced during ED3 through licence conditions. A resilience re-opener will also be available to enable alignment with any new government or regulatory decisions during the period.

6.61 This approach is consistent with our direction set out in RIIO-3, which includes a resilience re-opener and stress testing will be required by the second reporting year (ie 2028). Stress testing during RIIO-3 will be able to learn and build from this initial phase of stress testing in the run-up to ED3.

Holding DNOs to account on climate resilience

6.62 As set out in our Framework Decision, we expect to fund necessary activities within ED3 to support delivery of a long-term climate resilience goal. To hold DNOs to account and ensure that this funding delivers practical and proportionate value, we propose to introduce a categorised framework for climate resilience investments, supported by differentiated funding and accountability mechanisms. This will enable us to hold DNOs to account in a way that reflects the complexity and diversity of climate-related actions.

6.63 Effective funding and oversight requires greater clarity on what constitutes a climate resilience investment. Given the absence of a single output metric and the wide range of investment types, a granular approach to investment categories is necessary. Different categories of climate resilience actions will require tailored mechanisms for funding and accountability.

6.64 We are considering how to categorise climate resilience investments by type and driver, which will inform how they are presented and justified in business plans and, potentially, how appropriate mechanisms are designed. These categories may include:

- Direct climate resilience costs - investments where climate risk is the primary driver (eg flood barriers, asset relocation).
- Incremental climate resilience costs - additional costs layered onto existing investments, where climate resilience is one of several drivers. This could be

relevant across load, non-load or operational investments. Examples include but are not restricted to:

- Load-related - higher-specification assets linked to long-term network development plans;
- Non-load-related - early replacement due to chronic climate risks or upgraded assets due to acute climate risks; and
- Operational - enhanced emergency response or staffing for reactive resilience.

6.65 Climate resilience investments also vary by response type - reactive, incremental, or transformational - each requiring different levels of scrutiny and justification. Some actions may be easier to monitor and hold to account than others and our approach will need to be proportionate to the level of investment and associated risk.

6.66 We will continue to refine these categories and define appropriate mechanisms for funding and accountability. In light of the overall thrust of ED3 in ensuring a planned approach and delivery against those plans we are interested to hear from stakeholders how we can best ensure that needed investments for climate resilience are planned for and where there is agreed consumer benefit, are realised. In light of the considerations and developments on LRE and in asset health investment categories, we are interested to explore in detail how those mechanisms can appropriately work alongside and support climate resilience investments.

Improved rationale for investment

6.67 We propose to strengthen the expectations for how DNOs justify climate resilience investments in their ED3 business plans. This includes enhanced guidance on Climate Resilience Strategies (CRS) and business plan submissions, with a focus on articulating clear rationales that link proposed activities to long-term strategic objectives and system needs.

6.68 To support this, we will provide specifics on climate resilience within the Business Plan Guidance, which will include guidance to support the development of CRS. This will aim to include tools such as adaptation pathways and outputs from the first phase of stress testing, alongside measures to build internal capabilities during the price control period. We will also explore how the application of this improved guidance could form part of the BPI.

6.69 A key part of this approach is ensuring coherence between a long-term climate resilience goal, CRS and Long-Term Integrated Network Development Plans

(LINDPs), particularly for load-related investments. This integration is key to ensuring that decisions that are made now are future-proof and support a 'touch the network once' approach. This integration will help demonstrate the added value of aligning long-term strategic thinking with short-term investment decisions.

6.70 The required level of climate resilience investment will differ between networks, depending on factors including:

- climate hazards – such as windstorms, extreme heat and floods;
- geographic location – reflecting localised risk profiles and exposure to climate hazards;
- existing investment levels – which influence the scope and urgency of additional measures;
- asset types – with varying vulnerabilities and resilience needs; and
- previous customer experience of weather-related disruptions - those affected by previous events are less likely to accept further disruptions.

6.71 We will provide guidance which aims to address this by supporting consistent, evidence-based investment rationales. This aims to provide a more tailored approach which addresses concerns that current assessment tools such as benchmarking often exclude long-term climate resilience by default - due to localised risk profiles and the dynamic nature of climate hazards.

6.72 Benchmarking frameworks are designed to compare assets or projects against an average, which can inadvertently mask site-specific vulnerabilities or future climate risks. For example, benchmarking may lead to prioritising short-term efficiency or cost considerations over a long-term adaptive capacity and can lack flexibility to incorporate dynamic variables such as flood patterns and heat stress. As a result, investments guided solely by benchmarking may underrepresent the value of resilience measures that are critical in the face of increasingly unpredictable climate impacts.

6.73 Although quantitative methods such as CBA may offer value in the future, we do not consider them feasible within ED3 timeframes especially as we don’t yet have established climate resilience metrics or agreed approaches for quantifying the benefits of climate resilience. Instead, we propose a qualitative approach for ED3, drawing on strategic context from CRS and LINDPs to support forward-looking, proportionate investment decisions.

6.74 CRSs were introduced in RIIO-ED2 to provide a long-term view of climate risk and have been helpful but their influence on short-term investment planning has

been limited. A key objective for ED3 is to strengthen this linkage, ensuring CRS and LINDPs form a coherent foundation for investment planning and enhance the credibility of proposed resilience measures.

Review incentives and standard development

6.75 We propose to continue reviewing existing incentive mechanisms and support the development of relevant standards to ensure they reflect evolving climate risks. This includes assessing the appropriateness of the IIS thresholds for severe weather events as discussed in the IIS Severe Weather Exception Event Claim section in the Reliability section of this chapter.

6.76 We are not planning changes related to climate resilience in the NARM framework by the start of ED3. The CNAIM currently reflects asset deterioration related to weather via condition and health score data, however future climate risks are not yet embedded.

6.77 In response to the NIC's recommendation, we have considered options for embedding climate resilience into NARM at the start of ED3. However, we are not aware of any evidence that clearly demonstrates that climate change accelerates rates of asset deterioration which places a limit on our ability to do so confidently at this time. Premature integration could undermine the consistency and credibility of the CNAIM models. However, we can't confidently rule out that possibility either, therefore, we propose that DNOs build the capability to model changing rates of asset deterioration within CNAIM. This will ensure that, if credible evidence emerges during ED3, appropriate mechanisms are in place to reflect these risks within the regulatory framework. See NARM and climate change section (Paragraphs 6.40-6.46) for further details. To develop our evidence base we will:

- engage with technical experts and stakeholders to assess whether there is a material impact, a quantifiable rate of deterioration, and a credible case for adjustment within the ED3 period; and
- consider appropriate mechanisms to reflect any emerging evidence within the regulatory framework.

6.78 We welcome stakeholders to share any relevant evidence they may have. This approach maintains flexibility while prioritising evidence-led development.

6.79 We do not intend to introduce new technical or operational standards before the start of ED3. However, we plan to continue to engage and collaborate with government, NESO and industry on their reviews of more technical resilience standards including assessing the need for changes to regulatory mechanisms -

such as potential code modifications or adjustment to enforcement of existing standards.[71]

In-period and future price controls

6.80 We propose to incorporate climate resilience into the broader resilience re-opener with three potential authority triggers under consideration to support in-period flexibility and build the foundations for future price controls:

- introduction of a new standard during the period (which reflects the expectation that government will set new resilience standards by 2030);
- integration of stress testing outputs into actionable investment or planning decisions; and
- emergence of new climate science, such as updated climate projections, or significant improvements in capabilities addressing priority gaps.

6.81 Further details on the re-opener can be found in the managing uncertainty chapter.

6.82 Given the current gaps in setting goals, organisational capability and regulatory tools, it is unlikely that reopeners can be fully avoided. However, as industry capability improves and consensus around an acceptable level of resilience stabilises, reliance on re-openers in future price controls is expected to reduce.

6.83 One major gap for monitoring and addressing climate resilience is a lack of agreed climate resilience metrics. Whilst lagging metrics on historic impact from weather events exist (such as CML and CI), metrics included in annual reports exclude disruptions from the most severe events. This can distort the true picture of disruption and provide false reassurance (see Paragraphs 6.116 - 6.129 on severe weather threshold for more reasoning). Furthermore, there is a need for forward looking metrics that consider the levels of resilience to future high impact, low probability events (which is linked to the work we are doing on stress testing).

6.84 To help address this gap, we propose to implement a new set of Climate Resilience Metrics and Indicators (CRMI) for the start of ED3, to improve the quantification of climate resilience within the period and build the foundations for future price controls.

6.85 These metrics are being developed collaboratively with industry, building on work initiated through the Climate Change Resilience Working Group (CCRWG).

[71] This is consistent with Ofgem's Preliminary Strategic Direction Statement for industry codes | Ofgem

6.86 Measuring climate resilience is complex and difficult to address without an agreed initial framework. To address, we have developed a Ofgem Climate Resilience Metrics and Indicators Draft Framework. This has been published alongside this document (see Climate Resilience Metrics and Indicators Annex) and we welcome feedback as part of this consultation.

6.87 Over the coming months, we will continue to work with industry to finalise this framework, shortlist CRMIs, begin data collection, and establish reporting routes in order to be able to implement from the start of ED3.

6.88 These metrics will not immediately influence investment decisions as they will be followed by a period of learning. However, once we build confidence in their use, they should be valuable in supporting more quantitative justification for investments (including costs and benefits) in future periods or possibly within the period through the resilience re-opener. This approach with metrics is one example of how we are balancing urgency against the need to iteratively build capabilities.

6.89 This twin-track approach - (i) to accelerate and iteratively build capabilities to tackle major barriers in climate resilience (such as goal and metrics) to drive future change, and (ii) to embed climate resilience from the outset of ED3 - is consistent with our wider climate resilience strategy,[72] and the RIIO-3 framework, which allows for in-period enhancements to metrics and CRSs.

Consultation questions

Long-term goal and stress testing

Q91. What are your thoughts on our phased approach to stress testing which seeks to provide greater clarity on investment costs and rationale whilst building up capabilities to support government in setting national resilience standards/goals?

Q92. What are your reflections on the stress testing methodological framework for the first phase (see Climate resilience stress testing methodological framework annex)? Does it align with your expectations of the responsibilities of a DNO and current capabilities? Can you foresee any support or changes that might improve its effectiveness? Do you have any views on priorities for future phases of work?

Hold to account

Q93. Do you agree with our proposed granular approach to categorising climate resilience investment to hold DNOs to account? What are your views on the

[72] https://www.ofgem.gov.uk/publications/ofgem-climate-resilience-report-fourth-round-reporting

suggested categories (ie direct, incremental, load, non-load, operational, reactive, incremental and transformational)? How can we ensure that this works effectively alongside other approaches in ED3, notably LRE and asset health proposals? What are the risks and challenges?

Improved rationale

Q94. Do you agree that strengthening the rationale for investments is required to allow for differences in local contexts between networks and that our proposed approach to improve guidance for climate resilience strategies and business plans is the best way to do this? Do you agree that we need a clear link between CRS and LINDPs and what are your thoughts on how we can do this?

Longer term re-openers and future price controls

Q95. Do you think we have struck the right balance between early action and building long term capability? Can you identify any other areas for early action on climate resilience?

Q96. Do you agree with our approach to introduce Climate Resilience Metrics and Indicators (CRMI) at the start of ED3 and use the learnings to shape future decisions (either for future price controls or via a re-opener)?

Q97. Do you have any views on the proposed CRMI Framework (Climate Resilience Metrics and Indicators (CRMI) Annex)? Do the CRMI Framework objectives and attributes reflect what's needed to measure climate resilience? Are there specific metrics or indicators we should consider?

Reliability

Background

6.90 A resilient and reliable electricity distribution network is essential for an economy increasingly reliant on electricity for heating, transport and industry. It underpins consumer confidence, protects vulnerable groups and ensures security of supply as we accelerate the energy transition.

6.91 In our Framework Decision, we confirmed our retention of the IIS, with potential refinements to targets and incentive rates. We also committed to exploring additional measures to minimise interruptions and speed up restoration for customers who have historically faced poor service, including those in remote areas.

6.92 At a glance, key mechanisms and definitions of network reliability are:

- IIS – A financial output delivery incentive (ODI F) that rewards/penalises DNOs annually against targets for CI (customers interrupted per 100 customers) and CML (minutes lost per customer). It covers unplanned and planned interruptions, with exclusions for "exceptional events" (severe weather etc.). Scheme calibration draws on VoLL evidence.
- Short interruptions – <3 minutes. Reported in RIGs but not included in CI/CML and not incentivised under IIS.
- Long duration unplanned interruptions – >12 hours. Backstop GSoP require payments to affected customers (with longer restoration time limits during severe weather).
- Multiple unplanned interruptions (MUI) – Repeated unplanned outages experienced by the same customers/areas. Not separately incentivised under IIS today (beyond effects averaged into CI/CML); distinct from the formal WSC classification.
- Planned interruptions – Pre-arranged works. Count towards IIS (weighting/targets set by Ofgem) and are subject to GSoP notice requirements (at least two working days' notice or compensation).
- Exceptional events - such as severe weather, or other significant one-off events have an interaction with IIS and other policy/regulatory mechanisms (including GSoP). If the threshold for an exceptional event is met the IIS performance is adjusted and GSoPs instead apply. The aim of this is to protect the consumer while not unduly penalising DNOs for reduced performance for the severe events outside of their control.
- WSC – A customer with ≥12 unplanned HV interruptions (≥3 minutes each) over three regulatory years, with ≥2 incidents in each year. This is supported by the UIOLI scheme.
- VoLL – Economic measure (£/MWh) used to calibrate IIS incentive rates and assess reliability trade-offs. The prevailing GB figure (£21,000/MWh in ED2) was uplifted from earlier estimates, originally underpinned by a 2013 London Economics study; a new ENA/Ofgem steered study is due to inform ED3.

6.93 Since the introduction of the IIS in 2001, the IIS framework has driven sustained improvements in network reliability, as shown in Figure 9 below. CI – the number of customers interrupted per 100 connected customers – have fallen from 86.60 to 39.71, and CML – the average minutes of supply lost per

connected customer – from 81.66 to 35.11. This demonstrates the effectiveness of the IIS in improving reliability of the network to date.

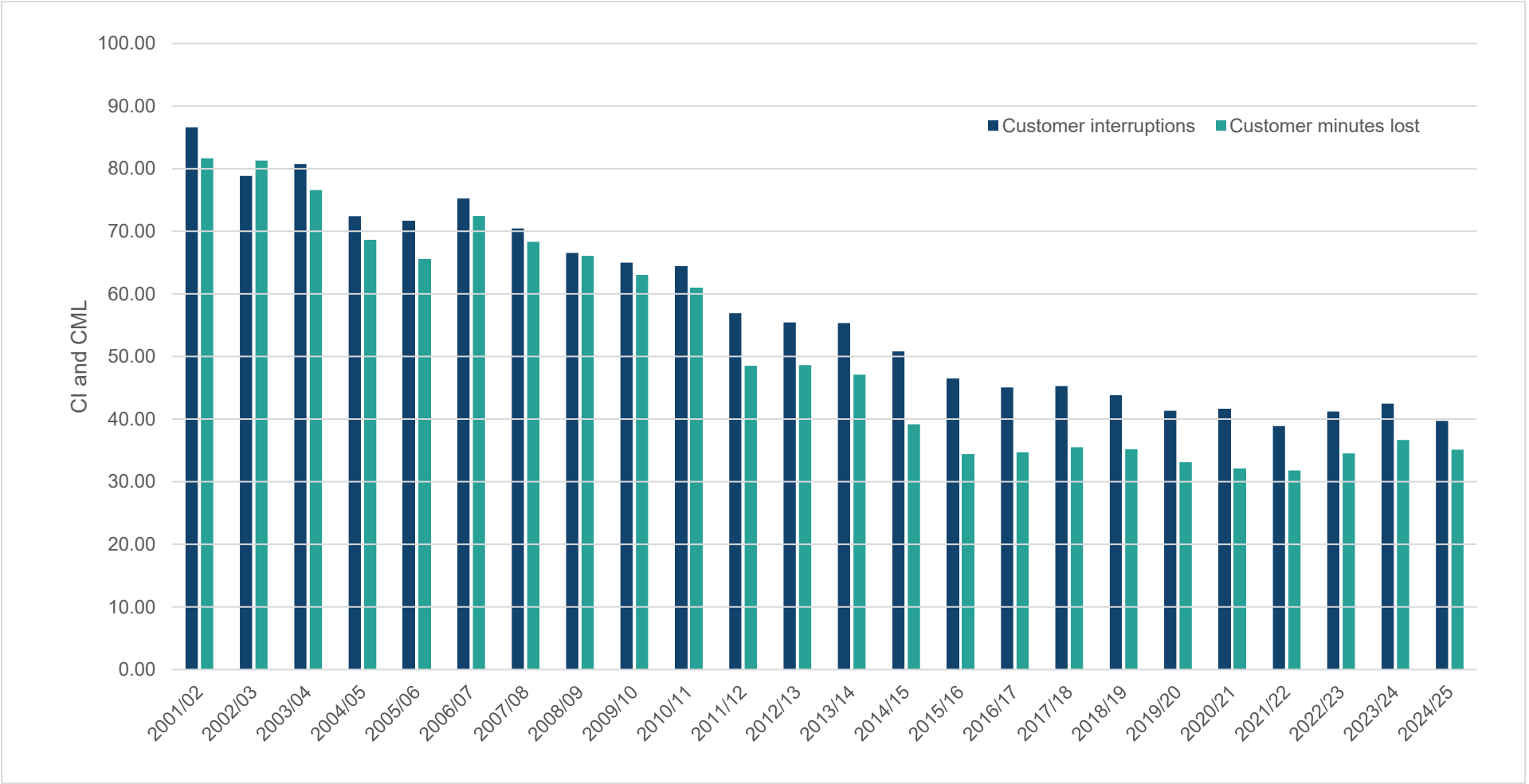
6.94 However, the averaging of CIs and CMLs across a DNOs license area can obscure the disproportionate impact on customers who experience long-duration or repeated unplanned interruptions, and the current IIS does not incentivise short interruptions. With the changing climate, we are also considering if the current severe weather event threshold is still fit for purpose and with increased network reinforcement expected in ED3 we are reviewing whether changes to the planned interruptions aspect of the IIS are required.

6.95 With the expected increase in reliance on electricity as we decarbonise and the changing climate expected in the future, we want to ensure the IIS continues to incentivise the right improvements. In the below section we have set out considerations for the following:

- short interruptions (<3 minutes);
- long-duration outages (>12 hours);
- multiple unplanned interruptions;
- protecting customers from severe weather events;
- planned interruptions;
- WSC; and
- VoLL.

6.96 We are keen to understand stakeholder views on areas we have identified, including any evidence to support the positions.

Figure 9: CI/CML performance (2001/02 - 2024/25) [73]



[73] Data Source: DPCR5, RIIO-ED1 and RIIO-ED2 annual regulatory reports.

Proposed approach

Short interruptions

6.97 During our Framework Consultation and associated working groups, stakeholders consistently highlighted that the IIS does not account for the customer impact of short interruptions (< three minutes). While DNOs report the number of such events, there is no incentive to reduce their frequency, and they are excluded from CI and CML calculations.

6.98 Historically, interruptions shorter than three minutes have been treated as transient events with minimal impact on customer experience or service reliability. The IIS was designed to incentivise improvements in CI and CML—metrics that capture more significant service failures. Including very short interruptions could distort these metrics and dilute focus on more impactful outages. However, frequent short interruptions can still cause inconvenience and operational disruption, particularly for critical service providers such as telecommunications operators, water companies, and other essential services. As electrification accelerates, the impact of these events on other customer groups could become more pronounced.

6.99 We anticipate that the frequency of short-term interruptions will increase over the coming years due to emerging challenges, including:

- climate change, which is expected to lead to more frequent and severe weather events impacting network stability;
- phase imbalances and voltage fluctuations, driven by higher levels of decentralised generation and flexible demand; and
- the integration of DER and CER, which can introduce new complexities in network operation and control.

6.100 Data from DNOs for the 2023/24 regulatory year shows:

- approximately 1.8 million customers experienced multiple short interruptions, defined as more than three interruptions within the reporting period; and
- approximately 21 million customers were affected by interruptions lasting less than one minute.[74]

6.101 These events may cumulatively erode customer satisfaction and trust, and while many causes - such as transient faults, third-party interference, or

[74] 2023-24 Annual regulatory submissions

environmental factors - are outside DNOs' direct control, this does not remove the need to explore mitigation strategies or customer support mechanisms.

6.102 Through this consultation, we seek robust evidence on the impact of short interruptions and stakeholder views on whether a formal mechanism should address them. This includes exploring the potential for:

- enhanced reporting requirements;
- adjustments to incentive structures; and
- alternative mitigation approaches.

6.103 We also want to explore the role of innovation, data analytics, and improved network visibility in reducing the frequency and impact of these events.

Unplanned interruptions

Long duration unplanned interruptions:

6.104 Over the past two decades, the IIS framework has delivered sustained improvements in CI and CML metrics. However, the averaging of CIs and CMLs across a DNOs license area can obscure the disproportionate impact on customers who experience long-duration or repeated unplanned interruptions.

6.105 As electricity becomes increasingly integral to daily life, interruptions exceeding 12 hours now pose a greater risk to consumers, not only in terms of inconvenience but also to health, safety, and economic activity. These risks are particularly acute for vulnerable customers and those in poorly served areas.

6.106 Under the GSoP, DNOs are required to provide payments to customers affected by supply interruptions lasting longer than 12 hours. However, the IIS framework does not currently include a targeted performance incentive for long-duration unplanned interruptions. This limits regulatory leverage to drive proactive mitigation or investment in resilience to such events.

6.107 We are considering introducing a specific incentive or penalty mechanism, complementary to the existing IIS framework to address long-duration unplanned interruptions. The aim is to better align DNO behaviour with evolving consumer expectations, ensuring that network operators are incentivised to:

- minimise the occurrence of extended unplanned outages;
- improve restoration times; and
- invest in infrastructure and operational strategies that enhance resilience.

6.108 Through this consultation, we want to gather views from stakeholders on whether we should introduce a specific mechanism to drive the reduction of unplanned long duration interruptions and, if so, how it might be implemented.

Multiple unplanned interruptions

6.109 While average reliability metrics have improved across the sector, some customers continue to experience repeated unplanned interruptions. These repeated interruptions are often concentrated in:

- Rural and remote communities, where network topology and access constraints pose challenges.
- Areas with ageing or constrained infrastructure, where investment may be lagging or insufficiently targeted.

6.110 We are also conscious of the increased impact these interruptions can have on vulnerable customer groups, who may be less able to cope with frequent disruptions.

6.111 At present, there are no targeted mechanisms within the IIS or broader regulatory framework to recognise or address clusters of poor reliability at either the individual customer or regional level. This includes customers who are consistently poorly served but do not meet the formal criteria for classification as WSCs. These customers may experience frequent unplanned interruptions or prolonged outages yet remain outside the scope of existing protections or targeted interventions.

6.112 As a result, there is a risk that persistent underperformance in specific areas or among specific customer groups is obscured by network-wide averages, limiting the visibility of localised reliability issues and the opportunity for tailored responses.

6.113 We propose that, in ED3, DNOs should identify and publish data on customers and regions experiencing multiple unplanned interruptions, and in their business plans we want DNOs to set out how they plan to support and reduce the number of customers experiencing multiple, unplanned interruptions. This may include:

- targeted investment in network reinforcement or automation;
- enhanced fault detection and response capabilities; and
- community engagement and support measures for affected customers.

6.114 This approach will support greater transparency and accountability, enabling stakeholders to better understand where persistent reliability issues remain and how they are being addressed.

6.115 In addition, we are considering if a formal mechanism should be introduced to incentivise the reduction of multiple interruptions and we would like

stakeholders' views on whether this is needed and how it might be implemented.

Protecting customers from severe weather events

6.116 Interruptions to electricity supply during severe weather events can cause significant distress and disruption to customers, particularly when they lead to prolonged power outages and impact those in vulnerable circumstances. While DNOs have made progress in managing the impact of these events, the increasing frequency and severity of these extreme weather events, driven by climate change, requires a more resilient and customer focused approach.

6.117 In ED3, we expect DNOs to go further in effort to mitigate the effect of the severe weather by strengthening network resilience, enhancing preparedness and response capabilities and prioritising customer outcomes. Alongside the efforts of the DNOs, we recognise that it is important that the regulatory mechanisms designed to manage these events, continue to function as intended, remaining proportionate, effective and aligned with the evolving climate and customer expectations.

6.118 Currently there are multiple thresholds related to severe weather which interact with the IIS and other policy/regulatory mechanisms (including GSoP). The aim of these thresholds is to protect the consumer while not unduly penalising DNOs for reduced performance for the severe events outside of their control.

6.119 These mechanisms and associated severe weather thresholds are summarised below. To help provide context, Storm Arwen exceeded the daily average fault volumes by 40 times. Table 3 further summarises this.

- **IIS** - thresholds are set at 8 times daily mean faults at HV and above, above this DNOs are able to make severe weather claims. In these cases, the CML and CI figures are adjusted to exclude figures above the threshold which adjusts the IIS payments. The intent of this is to prevent the DNOs for being unfairly penalised for reduced performance for these extreme events.
- **GSoP** - thresholds are set as category 1 (ie more than 8 times but less than 13 times daily mean HV faults) and category 2 (ie more than 13 times daily mean HV faults). Each of these categories have different targets for restoring power to customers, ie category 1 target is within 24 hours and category two is within 48 hours. If these targets are exceeded, then DNOs are expected to pay mandatory payments to customers (different levels apply). The intent of this is to recognise that for severe weather events it is

not proportionate to expect protection from disruptions but encourages DNOs to focus on minimising the disruption to consumers. Including multiple categories also recognises that there may be constraints for restoration for more severe weather events (especially related to safety of operational staff).

- **Severe weather 1-in-20-year (SW 1-in-20)** - this sets a threshold of 42 times the mean daily faults across the high voltage network. Above this threshold DNOs can recover efficient costs incurred during the most extreme weather events without pre-allocating uncertain spend. This is only intended for the most extreme weather events to ensure that DNOs do not incur unfair costs for these most extreme events.

Table 3: Summary of exceptionality requirement (ie thresholds) for severe weather events and how they interact with policy/regulatory mechanisms

Policy/regulatory mechanism	Threshold (mean daily HV faults)	Impact
IIS exception	≥8	Excluded from calculation of IIS rewards/penalties
GSoP (Category 1)	≥8 - <13	Restoration target of 24 hours
GSoP (Category 2)	≥13	Restoration target of 48 hours
SW 1-in-20	≥42	DNOs can recover efficient costs without pre-allocating uncertain spend

6.120 We still consider that there is a need for severe weather event thresholds in principle as it is not proportionate or in consumers' best interests to expect resilience to the most extreme events. However, under climate change we can expect extreme weather to increase in both frequency and severity, including resulting in unprecedented events. This is also expected to cause a shift where weather events previously considered as rare and extreme become the 'new normal' and as a result, unless investment for resilience actions increase, we can expect these thresholds to be exceeded more often which will negatively affect consumer level of service.

6.121 If the severe weather event threshold does not take the changing climate into account, it has the potential to disincentivise proactive investment from weather events that used to be considered extreme but have become the 'new normal' by excluding these events from performance incentives/penalties. For example, a weather event that causes between 8 and 13 times the mean daily faults will be subject to GSoP but will be excluded from calculation of IIS payments/penalties. This will incentivise action for recovery (via GSoP) but not for other more proactive resilience actions such as protecting assets. This makes economic sense for events that are rare but if we are experiencing this sort of event more often than it may be more cost-effective to protect than to rely on recovery (especially as there are limits to how much recovery can be further improved).

6.122 Furthermore, disruptions from these events are excluded from the IIS CML/CI published annual reported figures which may distort the true picture of disruption and provide false reassurance on the amount and length of CIs.

6.123 We propose a review of the severe weather event thresholds for IIS to determine whether they are still appropriate in light of the changing climate. This could include the following:

- revising whether the threshold is set at right level - ie should the levels of 8 and 13 times daily mean HV faults be increased in light of the increased frequency of events and should there be more than one threshold for IIS like there is for GSoP;
- revising threshold methodology - exploring whether thresholds should be based on service level impacts (eg outage duration, customer experience) rather than fault levels alone;
- integrating weather data - assessing the feasibility of incorporating meteorological data to better contextualise claims and align with climate projections;
- alignment with wider resilience strategy - ensuring that any changes to IIS support the long-term climate resilience goal and do not conflict with other initiatives such as CRMI or stress testing; and
- changing the publication of data and annual reporting - to include CI/CML reports inclusive of severe weather thresholds events, as well as the CI/CML reports for the purposes of IIS payments.

6.124 We are also interested in whether there are alternative approaches - such as service-level metrics or integration with other IIS initiatives (eg worst-served

customer, long-duration interruptions) - which could better reflect customer experience and incentivise resilience.

6.125 Ideally our review of the severe weather event thresholds should be inclusive of all the policy/regulatory mechanisms to ensure alignment and consistency in approach (especially with regards to IIS and GSoP which share a common threshold of 8 times daily mean HV faults). However, we are conscious that it may be difficult to update GSoPs within the ED3 timeline due to its statutory nature. To manage this, we will engage early with government and consumer stakeholders to manage expectations and explore future alignment opportunities or potential actions such as transitional guidance or clarification to help licensees navigate any divergences.

6.126 We commissioned consultants to carry out a review on GSoP severe weather event thresholds in November 2022. This included a review of whether the GSoP severe weather event thresholds (ie category 1, 2 and 3) were fit for purpose (severe weather event thresholds in relation to the IIS were considered out of scope).[75] This report recommended that category 3 thresholds were removed to ensure that customers who are off supply for long periods receive compensation payments.[76] This was implemented and we are not proposing to revisit this decision as we agree with the rationale.

6.127 This review did rule out a more detailed consideration of changing the severe weather event threshold for category 1 for GSoP on the basis it would need to be updated in the IIS and could affect DNO targets and reporting. We consider that, despite concerns on interactions between IIS and GSoP, we progress with a review now as otherwise we risk being stuck in a catch-22 and unable to implement necessary change.

6.128 Although our current review will be focused on IIS it may also have insights of relevance to GSoP, which we consider may also need updating in the long-term. Especially in light of recent events such as Storm Darragh and Eowyn which challenge assumptions made in the previous review of GSoP that the GSoP severe weather event thresholds were proportionate because major storm events like Storm Arwen were considered rare.

6.129 We are not currently proposing any changes to the definition or application of the Severe Weather 1-in-20 (SW 1-in-20) mechanism in ED3. The existing

[75] Review of Severe Weather Compensation Arrangements for Electricity Customers_FINAL_v1.0.pdf
[76] Under the previous category 3 threshold, during Storm Eunice some customers who were off supply for long periods would not have been eligible for payments.

threshold is defined as 42 times the mean daily faults across the high voltage network within a 24-hour period. This mechanism continues to serve its intended purpose: enabling DNOs to recover efficient costs incurred during exceptional weather events without pre-allocating uncertain spend. Following the review of the SWEEC threshold, we will revisit the SW 1-in-20 mechanism to assess whether the current threshold remains suitable, alongside broader considerations of threshold setting.

Planned interruptions

6.130 As the sector moves towards higher levels of investment under ED3, driven by the energy transition, the frequency of planned outages is expected to increase.

6.131 Stakeholders have acknowledged the need to review planned interruption targets and consider whether the current weighting in the IIS remains appropriate. Some stakeholders suggested reducing the weight applied to planned interruptions or setting it to zero, given that these outages are often necessary to enable critical investment and reinforcement works.

6.132 However, planned interruptions can still cause significant disruption for customers, particularly those who are highly dependent on continuous supply (eg vulnerable consumers, essential service providers). We think that if the weighting on planned interruptions was reduced to zero this could lessen the DNOs drive to find alternative ways to keep the supply on when carrying out planned works. Therefore, any changes to the incentive design must carefully consider any unintended DNO behavioural change and subsequently the consequence for consumers.

6.133 This raises important questions about whether alternative mechanisms could complement changes to targets or even replace existing incentives.

6.134 One such way could be to strengthen the focus on customer service provided in relation to a planned outage. Through the BMCS, we already recognise the importance of how planned interruptions are communicated and managed from a customer experience perspective and in Paragraphs 4.78-4.100 we are consulting on possible changes to the BMCS that will put a specific spotlight on the customer service provided for planned interruptions.

6.135 While the IIS focuses on reliability outcomes, BMCS provides a complementary mechanism to incentivise good customer service practices, such as timely notifications, clear communication, and support for vulnerable customers during planned outages. Increasing the focus on the customer service element of planned interruptions (and separately measuring Priority Service Register (PSR)

on non-PSR customer responses) could complement any change in target or weighting of planned interruptions in the IIS. We would like to hear stakeholders' views on whether these changes could support any change in the planned interruptions targets for IIS.

6.136 In addition, flexibility services should be used to manage outages, including those arising from planned works. By leveraging demand-side flexibility and DERs, DNOs can reduce the need for customer disconnections or shorten their duration during maintenance and reinforcement activities. This approach can help balance the trade-off between delivering essential upgrades and minimising customer disruption and therefore we would not want to disincentivise this use case.

6.137 Planned interruptions are subject to the GSoP, which set minimum service levels for notifying customers and restoring supply. Under GSoP, DNOs must provide at least two working days' notice of a planned interruption. If they fail to do so, or if the interruption occurs on a different day than notified, customers are entitled to automatic compensation. These backstop protections will continue to apply for ED3, ensuring that customers remain informed and compensated where standards are not met.

6.138 We are interested in understanding from stakeholders whether there is a case to review the targets or weightings of planned interruptions in the IIS, and if so, what that might look like and how we should mitigate the impact this may have on DNO behaviour.

WSC

6.139 Under RIIO-ED2, the WSC mechanism is designed to target customers who experience persistently poor reliability compared to the wider customer base. A WSC is defined as:

- A customer who experiences 12 or more unplanned interruptions (each lasting three minutes or longer) at the distribution higher voltage level over a three-year regulatory period, with a minimum of two such interruptions per year.

6.140 In the Framework Decision, we confirmed that the WSC mechanism will be retained in ED3, recognising that some customers, particularly in the rural and remote areas, continue to experience disproportionately poor service and that targeted measures are needed alongside the IIS to address this.

6.141 Tackling WSC is critical to ensure fairness and equity in outcomes: without specific intervention, while overall reliability across the network may improve

due to targeted investments and technological advancements, WSCs may not experience these benefits proportionately. This creates a widening gap in service quality, where improvements are concentrated among the majority, leaving a minority of customers consistently exposed to poor performance. Without specific interventions, these customers risk being excluded from the sector's progress. Thereby, undermining trust in the sector and leaving the most vulnerable customers exposed to frequent and prolonged interruptions.

6.142 In RIIO-ED2, Ofgem allocated £94 million (2020/21 price base) on a UIOLI basis to support improvements for WSCs, those experiencing frequent interruptions or located in remote areas where network investment has historically been limited, because the IIS and GSoP frameworks alone were insufficient to drive meaningful service improvements for these high-detriment customers.

6.143 Key challenges in assessing the effectiveness of the WSC mechanism include the lack of granular, long-term data to monitor the impact of funded projects and the difficulty in setting robust baselines for incentivisation.

6.144 Currently, there is limited visibility of how interventions for WSCs particularly those who are also vulnerable, are identified, prioritised, and delivered. This makes it difficult to assess whether these customers are receiving the intended benefits from the mechanism. To address this, there are opportunities to introduce reporting metrics that improve transparency on vulnerable customer identification and track the interventions made by DNOs to enhance service outcomes.

6.145 For ED3, we intend to continue the UIOLI mechanism and are exploring whether additional arrangements or amendments are needed to reduce disruption and improve restoration times.

6.146 We also propose DNOs submit a clear strategy outlining how they plan to utilise this funding to improve outcomes for WSCs. This should include:

- extensive stakeholder engagement to ensure local needs are understood;
- transparent publication of data on progress made; and
- where applicable, evidence of the impact that previous or ongoing interventions have had on service levels and customer experience, to inform and justify the proposed strategy. Consideration of industry best practice in designing and delivering interventions.

VoLL

6.147 The VoLL measures the social and economic consequences of interruptions to electricity supply, effectively reflecting the consumer value placed on supply security. VoLL is a critical component of the mechanism through which interruptions are converted into rewards and penalties. This metric has several applications within the ED3 price control, that will impact how regulatory mechanisms are calculated to ensure that the interruptions customers experience are fairly accounted for.

6.148 The current GB VoLL figure of £21,000/MWh is based on a 2013 study and is now over a decade old. To remain effective, VoLL must reflect the expectations and behaviours of today's consumers. With the growing electrification of heating, transport, and other essential services, reliance on electricity has increased and will continue to increase significantly. We have seen changes in customers willingness to pay, duration and types of outages and changes in the energy system (ie increasing share of renewables). An outdated VoLL risks misrepresenting the true value of supply reliability, potentially leading to misaligned incentives, underinvestment in reliability and resilience, and wider consequences for critical infrastructure and vulnerable customers. Updating VoLL is essential to ensure regulatory mechanisms remain responsive to current system needs and deliver value for consumers. Table 4 below outlines a summary of how VoLL has changed.

Table 4: Summary of how VoLL has changed over price controls

Price controls	Value (£/MWh)	Price year	Study
RIIO-ED1	16,000[77]	2009-10	2008 Accent study and further 2013 London Economics Study
RIIO-ED2	21,000	2018-19	N/A - Uplifted from RIIO-1 for inflation
ED3	TBC	TBC	2025 Ofgem and ENA commissioned study

6.149 As presented in our Framework Decision, work to update VoLL intended to inform ED3 and RIIO-ET3 has continued. We instructed the ENA to undertake a new VoLL study which is due to complete in 2025. Ofgem, the ENA, DESNZ, Citizens Advice and the network companies sit on a steering group overseeing the study. This study is using a multi method approach to update estimates for

[77] This was uplifted to £17,600 in 2011-12 prices when setting the IIS incentive rate.

electricity VoLL, investigate how often VoLL should be updated, and whether a uniform VoLL figure is still the most appropriate choice for different use cases. There are arguments for and against a dynamic VoLL across the different use cases within the price control.

6.150 The study is not yet complete at the time of this consultation publication and therefore, we do not have a new figure to consult on during this process, however, we welcome stakeholder views on the approach that should be taken once the study is concluded. Ofgem will use the study outputs to undertake internal analysis and consult with the network companies on any updated figure(s) for VoLL.

Consultation questions

Q98. What is the impact of short interruptions on consumers and are certain regions or customer groups more affected? Do you expect the severity of these impacts to change over the ED3 period? If so, in what way and why?

Q99. What drives short interruptions and how can these be reduced? Could innovation, data analytics, and enhanced network visibility play a role in reducing the frequency and impact of short interruptions? If so, how?

Q100. Do you agree that a formal mechanism should be introduced to recognise and address the experiences of customers significantly impacted by short interruptions? If so, what form should this mechanism take (eg enhanced reporting, adjustments to existing incentives, or alternative mitigation approaches)?

Q101. Are long-duration outages becoming a more significant concern, and could a targeted IIS incentive or penalty for 12+ hour events effectively address this? How could such a mechanism work and are there system or data barriers to implementing it?

Q102. How should multiple unplanned interruptions be defined (qualifying criteria similar to WSC?) and monitored over time, and could targeted incentives or reputational tools help improve outcomes for customers who are persistently affected?

Q103. Do you agree we should review the extreme weather event thresholds for IIS to determine whether they are still appropriate in light of the changing climate? If so, do you have a view on the possible approaches we have set out, and why.

Q104. If our review of the extreme weather event threshold does result in a change in the threshold for IIS, how do you think we should manage the interaction with GSoPs?

Q105. Should the IIS be amended to reflect the expected increase in planned interruptions from the increase in network investment in ED3? If so, how, and how can this be done whilst ensuring that customer impacts are effectively mitigated?

Q106. Beyond the UIOLI mechanism, what additional regulatory or operational measures could be introduced to ensure sustained and equitable improvements for WSCs?

Q107. Is the current threshold for defining WSCs still appropriate? If not, what principles should guide any revision to ensure it remains fit for purpose?

Q108. Is it appropriate to update the VoLL for ED3? Do you think price control mechanisms that utilise VoLL should use a more dynamic value? If not, how should the results of the study feed into a revised uniform figure?

Resilience re-opener

Background

6.151 The GB electricity distribution system faces an evolving risk landscape. Recent years have seen systemic shocks such as major substation fires, which caused widespread outages and disrupted customers and Critical National Infrastructure (CNI) sites, alongside accelerating climate impacts.

6.152 Incidents like these highlight the potential impacts of network failures to cascade into regional disruption, affecting transport, businesses and domestic consumers. This underlines the importance of physical asset resilience, effective planning, and rapid restoration capability: areas that may require funding flexibility when new risks or standards emerge mid-period.

6.153 The growing importance of electricity increases the need for DNOs to prepare for high-impact, low-likelihood risks identified in the government's National Risk Register, such as regional electricity network failure, climate change and space weather.

Proposed approach

6.154 We propose to introduce a single resilience re-opener for all DNOs in ED3. This mechanism would allow adjustments to allowances where government requires new activities to enhance resilience that were not planned for at the time ED3 allowances are set.

6.155 The activities covered by the resilience re-opener should include those currently covered by existing RIIO-ED2 mechanisms, such as:

- implementing and enhancing physical security at CNI sites; and

- mitigating changes to emergency measures and protocols, including the Electricity Supply Emergency Code (ESEC) and Low Frequency Demand Disconnection (LFDD) schemes where costs were not included in baseline allowances.

6.156 It would also cover updates to engineering, climate resilience and other resilience standards, as well as system design and stress testing, provided these activities are underpinned by government support and direction; providing a route for the Authority to respond to emerging or unforeseen developments that could materially impact network resilience and investment needs. This does not include cyber resilience, which will have a separate re-opener (see Paragraphs 6.165 - 6.177).

6.157 As recommended by NISTA, DESNZ is reviewing security of supply standards. Depending on the outcomes of this review, there could be additional works that need to be undertaken and funded during the ED3 period. Similarly, a significant body of work is underway by Ofgem, DESNZ and others, relating to climate resilience standards for utilities and we expect further clarity on climate resilience standards during ED3 (see Paragraph 6.60).

6.158 With respect to physical security, we are aware that planned changes to roles, responsibilities and methodology involving NESO and DESNZ could result in changes that may need to be managed in a timely way through the physical security reopener. We will keep this situation under review as we consider the scope and appropriate windows for the resilience reopener.

6.159 Creating a new resilience reopener would potentially remove the need for the Electricity System Restoration (ESR) and Physical Security reopeners, which we propose could both be included within the scope of the resilience reopener. The Storm Arwen reopener was linked to the delivery of specific recommendations arising from the Storm Arwen Review, published in 2022, and therefore we do not propose carrying this reopener forward in ED3.

6.160 The new resilience reopener would also create an opportunity for new activities, for which there isn't currently a reopener, to be included, for example, activities arising from climate stress testing and other work resulting in new or amended resilience standards, or emergence of new or updated climate science or significant improvements in capabilities addressing priority gaps.

6.161 With regards to climate resilience, we believe the potential trigger scenarios include:

- the introduction of new climate-related standards or regulatory requirements not anticipated at the ED3 Final Determinations;
- integration of stress-testing outputs (such as national climate risk assessments or sector-wide modelling) into actionable investment or planning decisions; and
- the emergence of new climate science, including updated UK climate projections or significant revisions to the expected frequency and severity of extreme weather events.

6.162 We believe this supports the delivery of long-term climate adaptation strategies and ensures networks remain responsive to evolving evidence and policy.

6.163 We will work with government and DNOs through ED3 working groups ahead of the SSMD to refine the re-opener's scope, triggers, evidentiary requirements and window dates.

Options considered but not proposed

6.164 We considered retaining the current RIIO-ED2 arrangements for resilience, which include separate re-openers for Physical Security at CNI sites and Electricity System Restoration. However, we decided against this approach for the same reasons set out in the RIIO-3 Framework: maintaining multiple mechanisms increases administrative complexity and creates gaps in coverage. We believe a single, consolidated Resilience Re-opener provides a more proportionate and future-proof solution.

Consultation question

Q109. Do you agree with our proposal approach to introduce a resilience re-opener? Why?

Cyber

Background

6.165 Network companies depend on interconnected technologies to deliver energy and services. As networks become smarter and more automated, it will become increasingly likely that cyber-attacks will threaten both operational and information systems. Companies need robust protection to detect, prevent and respond to these attacks.

6.166 The Network and Information Systems Regulations 2018 (NIS-R) require network companies to take appropriate and proportionate cyber security measures to manage the risks posed to the security of their network and

information systems. It also designates Ofgem and DESNZ as the joint Competent Authority (CA) for the electricity and downstream gas sectors in GB.

6.167 To assist network companies in achieving compliance with the NIS-R, the National Cyber Security Centre (NCSC) developed a cross-sector Cyber Assessment Framework (CAF), published in 2018.[78] Under the CAF, network companies perform a self-assessment and identify cyber security measures that should be implemented to ensure compliance with the NIS-R. We expect the need to achieve and maintain NIS-R compliance to be the main driver of cyber resilience investment requirements for ED3. Network companies have a clear mandate to incorporate the current CAF profiles into their risk management activities in order to assess cyber security resilience and ensure compliance with the NIS-R. All network companies have made good progress in improving their compliance with the NIS-R since it was introduced, with support from allowances dedicated to cyber resilience.

6.168 The cyber resilience framework for RIIO-ED2 consists of four key components:

- cyber resilience Information Technology (IT) and Operational Technology (OT) Plans (aligned with CAF framework);
- baseline allowances and a UIOLI allowance to fund the delivery of cyber resilience IT and OT Plans;
- two separate re-openers to fund additional IT and OT activities, with re-opener windows in both April 2023 and April 2025, plus an option for an Authority triggered re-opener; and
- PCDs to track the delivery of IT and OT activities.

6.169 In RIIO-ED2 and RIIO-2, we have found that the network companies have interpreted the cyber resilience re-opener guidance in different ways, which has led to notable variances in the quality, type and volume of re-opener applications. We have found similar issues with the RIIO-3 Business Plans. These inconsistencies have made it challenging to benchmark and assess efficient costs and is an improvement priority for ED3.

6.170 In RIIO-ED2, we set over 250 cyber resilience PCDs across the six network companies in the sector. Whilst the associated reporting has enabled us to monitor project delivery, spend and NIS-R compliance, it has also resulted in a significant regulatory reporting burden for both the DNOs and Ofgem. We also

[78] Cyber Assessment Framework - NCSC.GOV.UK

recognise that the RIIO-ED2 reporting is in addition to the mandatory reporting required under the NIS-R, which can lead to unnecessary double reporting.

Proposed approach

6.171 Our objective for ED3 is to build on the good progress made to date in RIIO-ED2 in complying with the NIS-R and to reduce the regulatory burden given the sector's increasing maturity. To help ensure alignment with the NIS-R obligations and set clear expectations across all sectors, for ED3 we propose to build on the progress made in the Transmission and Gas Distribution companies and adapt documentation from the RIIO-3 Business Plan Guidance.[79]

6.172 We propose that as part of their ED3 Business Plan submissions, DNOs should submit one holistic Cyber Resilience Business Plan (CRBP) which incorporates IT and OT, and focuses on investments that will enable compliance with the NIS-R. We will set out further information on the scope of the CRBPs in the ED3 Business Plan Guidance, in particular to help separate the investments we expect under Cyber Resilience from investments in other areas such as Non-operational IT, Physical Security, or Asset Health.

6.173 For ED3, our ambition is to set all cyber allowances at the outset of the price control period, enabling DNOs to deliver their CRBPs. As investment in this area matures and transitions to delivering business as usual activities, we want to encourage companies to deliver cost efficient outcomes by awarding allowances up front that the companies can manage with a degree of flexibility.

6.174 We propose to continue to provide two separate funding mechanisms for activities in ED3:

- Evaluative PCDs, subject to the TIM, for activities where there is a clear needs case, proposed delivery schedule and costs. This will encourage companies to look for efficient and innovative ways to deliver cyber resilience and maintain compliance with NIS-R. We intend to use PCD allowances even where there is some uncertainty over the costs and companies should submit lower and upper bounds for the costs for our assessment. For ED3, we want to reduce the number of PCDs that we set, whilst ensuring that we have sufficient oversight to ensure compliance with the NIS-R. We propose to align all PCDs to the 16 CAF Principles, reducing the total number of ED3 NIS-R cyber resilience PCDs to a maximum of 16 per DNO, which will support closer alignment of PCD and NIS-R reporting.

[79] RIIO-3 Business Plan Guidance | Ofgem, see Annex 6: RIIO-3 - NIS-R Cyber Resilience Business Plan Assessment Methodology and Requirements

- UIOLI allowances - for activities where the network can justify the overall business need and specific needs case for a proposed project, but there is significant uncertainty over the preferred option, schedule and cost. However, this will be by exception and should be used for relatively small projects given the lack of clear deliverables. If we do award a UIOLI baseline allowance, we propose to cap it at 20% of a network company's total allowances for cyber resilience. Where a PCD cannot be set and UIOLI allowance is used, the benefits and outcomes will be reported annually and will be assessed ex post.

6.175 We propose to continue to mandate that network companies should report on their allowances annually, as per the current reporting requirements.

6.176 Finally, in line with broader ED3 policy to reduce the number of uncertainty mechanisms, we propose to discontinue holding a fixed cyber resilience mid-period re-opener. We will award allowances during the Final Determinations that provide the DNOs with the ability to better manage small changes throughout the period. We welcome views on whether additional UIOLI allowances or other mechanisms could be used to help enable this flexibility.

6.177 We also propose to retain the option for the Authority to direct new re-opener windows in ED3, with the provision that it will only be triggered if there are significant external changes to government policy, guidance or the risk landscape during ED3. This approach enables flexibility for any substantial, unforeseen developments.

Options considered but not proposed

6.178 We were planning on limiting UIOLI allowances to the first three years of the price control, in line with RIIO-3. However, in line with the proposal to move to an Authority-only triggered re-opener (see Paragraph 6.177), we propose to allow DNOs to request UIOLI allowances for the full five year period of ED3.

Consultation question

Q110. Do you agree with our proposed approach to cyber resilience in ED3, and do you have any suggestions for improvements? Why?

Supply chain and workforce

Background

6.179 We are moving from backward-looking incremental upgrades to a once-in-a-century build-out. In response, ED3 will require long-term, proactive business planning and robust delivery accountability.

6.180 Fixed-period price controls typically provide limited incentives for companies to deliver investments proactively or in any given year. In the first two years of RIIO-ED2, companies underspent against their load and asset health forecasts but now plan a sharp ramp-up in load-related investments, ultimately expecting to exceed allowances by the end of the price control.

6.181 Significant but unpredictable shifts in spending undermine the credible demand signals that manufacturers, contractors, and educators need to expand equipment production and grow the skills pipeline. This volatility can amplify scarcity of equipment and talent, driving delays, inflating costs, and heightening delivery risk. These pressures will intensify in ED3. The proposed step change in load-related investment will coincide with major transmission upgrades, national rail projects, and inevitable supply chain expansion, all drawing from a limited pool of skilled workers. As demand rises across these interconnected sectors, workforce flexibility will tighten. Without a long-term strategy, essential network maintenance could be deferred, weakening resilience and increasing outage risk. We want to avoid such developments in ED3 and future price controls.

6.182 Our Framework Decision recognised the critical importance of supply chains and workforce to accelerate the electrification of GB. We are acting early to engage the sector, government and suppliers, and are forging a price control that is more resilient to anticipated delivery risks. Through early engagement, stakeholders have highlighted several emerging challenges, including:

- longer lead times and higher prices for critical high-voltage and some low-voltage equipment, with increasing global competition;
- zero-commitment contracts between DNOs and suppliers;
- lack of long-term DNO partnerships with suppliers and contractors;
- highly unequal risk-sharing between DNOs and suppliers;
- boom-and-bust investment cycles in five-year price controls;
- manufacturers operating at 75–90% capacity and unwilling to expand production without firm orders;
- limited competition among incumbent suppliers, with high barriers for new entrants;
- growing market power of suppliers to set prices and contract terms;
- low visibility of equipment and workforce demand pipeline and DNO spend profile;
- waning confidence in timely delivery of RIIO-ED2 business plans;

- regulatory uncertainty on SF_6-free equipment, which are significantly more expensive and have few manufacturers;
- rising skills shortages and ageing workforce across contractors, DNOs, and manufacturers, with limited training capacity, driving wage inflation and cross-sector poaching; and
- workforce demand from connections and load work meaning reduced flexibility to do maintenance tasks.

6.183 Our Framework Decision confirmed that we would introduce long-term network development plans, supported by higher ex ante investment baseline and a robust accountability framework, to give supply chains and workforce planners the confidence to grow in step with demand. In line with RIIO-3, we stated that companies would be required to submit supply chain and workforce resilience strategies demonstrating their long-term ability to deliver work under ED3 and beyond. We committed to improving visibility of equipment volumes to enable suppliers to scale up production and to support the development of UK-based manufacturing in line with our growth duty. We also confirmed that we would work with government to help alleviate workforce pressures and strengthen market confidence. Finally, we noted that we were not persuaded of the need to extend the Advanced Procurement Mechanism (APM) to the ED sector but would consider whether there is a strong case to do more.

Proposed approach

Delivery Strategy

6.184 Chapter 3 details our proposal for each DNO to submit a network development plan that optimises long-term consumer benefits from all major investment drivers such as load growth, asset health, climate resilience and environment, steered by NESO's regional demand and generation pathways. We further propose that each DNO operationalise this plan into a publicly-visible Delivery Strategy: a clear, execution-ready blueprint for components, people and processes that avoids disruptive ramps and manages delivery risk from day one of ED3.

6.185 Credible long-term plans and transparent volumes will give suppliers and educators the certainty to invest in growing their capacity, give network companies the tools to manage real-world delivery risks, and give consumers confidence that what they fund will be built, on time and to standard.

6.186 Each DNO’s Delivery Strategy must demonstrate how it will deliver its long-term network development plan safely, efficiently and on time. The Strategy should

cover the first ten years of the DNOs' long-term plans to 2050 (ie, for ED3 and ED4), with annual delivery targets where possible. At this stage, we think the Delivery Strategy should set how each DNO is planning to approach the following:

- Phasing across price controls
    - A ten-year phasing plan that smooths peaks across ED3/ED4, coordinates outages/network access with NESO, and avoids cliff-edges that exceed market capacity.
- Supply chain approach
    - Promote diversity and resilience in the supply base (dual/second sourcing; regional diversification; environmental and social standards), consistent with value-for-money.
    - Place procurement frameworks at the heart of delivery: market-warming, tech-agnostic tendering, phased competitions to reveal option value (including flexibility where appropriate), and transparent tender pipelines (with targeted redactions)
    - Tier-mapping of strategic suppliers (T1/T2/T3), identification of bottlenecks (eg transformers, switchgear, cable), and mitigations (eg factory-slot reservations, frame agreements, pre-ordering, bulk buys, strategic stock). Include second-sourcing and logistics plans; articulate how competitive tension will be maintained in tighter markets.
- Workforce approach
    - Common workforce metrics across the sector, (workforce characteristics, resourcing, skills development, retention), based on DNOs' work with the National Skills Academy for Power (NSAP) to develop workforce metrics during RIIO-ED2, with company data systems able to report against these metrics during ED3.
    - A quantified workforce plan by discipline and region (recruitment, apprenticeships, reskilling/multi-skilling, retention, wellbeing and safety), with actions to improve inclusion, diversity and equality, motivation and productivity, and to attract and develop skills for a technology-driven, low-carbon system. Set out forecast skill shortages and mitigations.
- Outsourcing, contracting and partnerships
    - Make-buy-ally choices by work type (replicable vs bespoke), contracting models (eg frameworks/alliances), risk allocation principles,

performance terms linked to energisation and quality, and SME participation where efficient.

- Wayleaves and consents
  - A critical path for permits/land rights with local-authority interfaces and escalation protocols.
- Network access and outages (with NESO)
  - Booking horizons, inter-control-room protocols and outage stacking to enable timely build.
- Stakeholder engagement (ISG and RESP roles)
  - How the ISG and RESP stakeholders will scrutinise delivery phasing, local impacts and community benefits
- Management, decision-making and accountability
  - Named SRO, RACI (Responsible, Accountable, Consulted, Informed) matrix to clarify roles and responsibilities for scope/schedule/cost/quality/safety, stage-gates with independent assurance, and change-control regime with clear decision logs
- Open data commitments
  - Aligned with Ofgem's digitalisation and data best-practice expectations.

6.187 Each DNO should further publish (with justified redactions only) a consolidated ten-year, annualised view of:

- Equipment volumes (eg transformers by MVA class; HV/MV/LV switchgear bays; cable km by voltage and type; substation builds/modular kits; OHL structures and conductor km; P&C/telecoms kits; long-lead spares target levels)
- People volumes by discipline and region, based on their work with NSAP to develop workforce metrics under RIIO-ED2 (eg project management, consenting/land, civils, cable jointers, OHL lines, P&C/commissioning, outage planners, data/digital, commercial, HSE; apprentices/trainees; retained/sub-contracted FTE equivalents)

6.188 We propose that the Delivery Strategy is in scope of Stage A (minimum requirements) and Stage C (quality) of the BPI. Linking quality to financial incentives will require richer, standardised data than is currently available. We may therefore specify data tables in the Business Plan Data Templates (BPDTs) to capture equipment and workforce volumes, supplier commitments and risk mitigations in a structured format.

6.189 Delivery Strategies may not be static. We propose annual monitoring to refresh ten-year volumes, update supplier and skills evidence, track delivery productivity and real price effects, and provide a pathway status update supported by a Board assurance statement.

Mobilisation funding windows

6.190 We confirmed in our Framework Decision that we did not consider it necessary to extend the Advanced Procurement Mechanism (APM) to the electricity distribution sector. The APM is designed for transmission projects, where much longer project development phases, project-specific cost assessments, and significantly more extended global lead times create a need for early financial approval to secure equipment.

6.191 By contrast, distribution network investment is characterised by high-volume, lower-value projects and programmes, most of which are benchmarked against efficient unit costs and funded through baseline allowances. We do not expect this to change in ED3. Furthermore, according to the NIC, around 60–70% of load-related investment to 2050 is expected to be in the low-voltage network, where we have not seen material supply chain constraints beyond a few items such as wood poles.

6.192 However, where preparatory activities require additional funding before the start of ED3, we will consider submissions through three RIIO-ED2 LRE reopener windows: the original January 2027 window and two further windows in October 2025 and January 2026.

6.193 These windows can be designed to support continuity between RIIO-ED2 and ED3 and to enable DNOs to undertake critical early works — such as design, surveys, procurement of long-lead items, and mobilisation of delivery partners — where these activities are essential to maintain delivery momentum and manage supply chain risk. This approach reflects the principle that DNOs should plan near-term investment within a longer-term horizon, ensuring coherence across investment drivers and alignment with regional growth, housing, and decarbonisation plans. We expect any reopener application to demonstrate that early investment forms part of a justifiable long-term strategy, delivers clear consumer benefit, and supports timely mobilisation for ED3.

6.194 We expect companies to use these windows strategically. Submissions should clearly demonstrate that early investment will reduce delivery risk, avoid cost escalation, and provide value for consumers.

Enabling growth

6.195 ED3 will bring substantial inward investment in Britain's electricity distribution networks, creating opportunities to strengthen UK supply chains and workforce resilience. Ofgem's growth duty and DESNZ's forthcoming, industry-led Electricity Networks Sector Growth Plan both seek to ensure that the economic benefits of decarbonisation are realised domestically, while protecting consumers and delivering value for money. Alongside delivering efficient, reliable networks, there is growing interest in how DNO procurement can support domestic capability, innovation, fair work, and inclusive employment, while remaining consistent with Ofgem's statutory objectives and international trade obligations.

6.196 The government's proposed Sector Growth Plan, developed in response to the Department for Business and Trade's Modern Industrial Strategy, aims to strengthen UK manufacturing and workforce capability across clean energy sectors. Ofgem's growth duty and ED3's resilience objectives align with this ambition. We are therefore seeking views on whether, and how, local content considerations should be reflected in ED3 delivery strategies and procurement practices.

6.197 We are not proposing local content targets or new mechanisms at this stage. Instead, we are seeking evidence and views to inform future policy development. Specifically, we want to:

- Understand the current level of UK content and social value in DNO supply chains for distribution network investment (eg equipment, services, workforce).
- Identify any regulatory barriers within the price control framework that may discourage local sourcing, new entrants, SME participation, or long-term partnerships with local suppliers.

6.198 This evidence will help us assess whether further action is needed in ED3 or future price controls to support local content and social value in a way that is proportionate, compliant with trade obligations, and consistent with our statutory objective to protect existing and future consumers.

6.199 We recognise that long-term network investment planning, greater visibility of volumes, and strategic procurement can create conditions for domestic suppliers and SMEs to invest and innovate. However, supply chain constraints and reliance on a small number of overseas manufacturers also raises resilience and

security considerations. Diversification, transparency, and robust assurance processes will therefore be important for ED3 delivery.

6.200 We are also exploring whether social value principles - such as local employment, diversity, sustainability, and fair work - should play a stronger role in procurement decisions, provided they are transparent, proportionate, and do not compromise efficiency.

6.201 We welcome evidence, case studies, and views on how local content objectives can be achieved without undermining efficiency, competition, or timely delivery. Responses will inform whether additional guidance or reporting requirements should be introduced for ED3.

Consultation questions

Q111. Do you agree with our proposal to require a ten-year Delivery Strategy (ED3+ED4) that embeds supply chain and workforce plans? Are the content expectations complete and proportionate? Where should we be more/less prescriptive and why?

Q112. Do you agree that DNOs should publish annual equipment and people volumes for ten years to provide better market visibility? What minimum granularity would be most useful to suppliers and training providers?

Q113. Do you agree that Delivery Strategies should be in scope of BPI Stage A and Stage C? What evidence and criteria should we emphasise in assessing quality and credibility?

Q114. Should we introduce a supply chain and workforce monitoring framework for ED3 and future price controls? What metrics and reporting frequency would provide the greatest value while remaining proportionate?

Q115. What do you consider essential for these mobilisation reopener windows in RIIO-ED2 to be effective in supporting timely ED3 delivery? For example, how should we specify eligible activities (eg design, surveys, factory deposits), require evidence of supplier commitments, or introduce minimum thresholds for submissions? Are there other measures that would make these windows more useful in accelerating mobilisation and reducing ED3 delivery risk?

Q116. How can DNOs demonstrate active engagement in industry and government-wide initiatives such as DESNZ's upcoming industry-led Electricity Networks Sector Growth Plan, the Transmission Operators skills alliance, and OCEJ's Clean Energy Workforce Strategy? What steps should Ofgem take to ensure DNOs play a leading role in these programmes?

Q117. What is the current level of UK content and social value in supply chains for distribution network investment?

Q118. Are there features of the price control framework that create barriers to sourcing from UK suppliers or SMEs? How could Ofgem enable greater social value in a way that protects consumers, ensures value for money, and remains compliant with trade obligations?

7. Managing uncertainty and adaptation

Introduction

7.1 We confirmed in the Framework Decision that we will set the majority of allowed revenues as baseline funding at the start of the price control (ex ante), including funding for the operation of the network and for network expansion.[80]

7.2 It is important that we take this proactive approach to ensure that the network is able to support decarbonisation and economic growth, provide confidence to consumers, investors, supply chain partners and those seeking to connect to the network, and to ensure that the electricity distribution system is being developed to meet both short- and longer-term needs.

7.3 However, we anticipate that changes in circumstances will arise during the ED3 period that will need to be taken into consideration and, as a result, changes may need to be made to company plans and priorities, their allowed revenues and outputs.

7.4 Some of these changes are expected, but the quantum of change is unknown (known unknowns). Examples include new RESP outputs, new climate resilience standards and potentially changes to security of supply standards. Other changes are much less certain and cannot be accounted for until they materialise (unknown unknowns). The price control framework should provide a range of appropriate mechanisms to manage these different situations.

7.5 We already have a range of mechanisms in RIIO-ED2 to manage different types of uncertainty, including the TIM, volume drivers, UIOLI allowances, pass through costs and reopeners. We expect all of these mechanisms to have a role in ED3, however, as noted in our Framework Decision, we are expecting to make changes. This includes considering rationalising the number of reopeners, developing a more adaptable framework for managing RESP changes and exploring the use of ex post mechanisms.

7.6 This is consistent with Recommendation 8 from the NIC ED review which suggested that our approach to setting allowances should involve "using re-opener mechanisms only where there is genuine long-term uncertainty and the process and objectives for re-openers is proportionate to the investment being considered".[81]

[80] Ofgem | Framework decision: electricity distribution price control (ED3)
[81] NIC Review Recommendation 8

7.7 A summary of the RIIO-ED2 mechanisms common to all DNOs is provided below.

- Pass-through
  - Bad debt/valid bad debt claims by IDNOs
  - Business/Prescribed Rates
  - Ofgem Licence Fee
  - Pension Deficit Repair mechanism
  - Ring Fence Costs
  - Smart Meter Communication Costs
  - Smart Meter Information Technology Costs
  - Supplier of Last Resort
  - Transmission Connection Point Charges
- UIOLI
  - Cyber Resilience OT
  - Visual amenity
  - WSCs
- Volume Drivers
  - LRE - Low Voltage (LV) services
  - LRE - Secondary reinforcement
  - Polychlorinated Biphenyls (PCB)
  - Indirect Scaler
- Re-openers
  - Coordinated Adjustment Mechanism
  - Cyber Resilience IT
  - Cyber Resilience OT
  - Digitalisation
  - DSO
  - Electricity System Restoration
  - Environmental
  - High Value Projects
  - LRE
  - Net Zero
  - Physical Security

- Rail Electrification
- Storm Arwen
- Streetwork Costs
- Wayleaves and Diversions

7.8 Some DNOs also have bespoke uncertainty mechanisms in RIIO-ED2, listed below:

- West Coast of Cumbria (ENWL) Re-opener
- EV optioneering (SPEN) UIOLI
- High Cost Distribution Areas (SSEN) Pass-through
- Shetland Variable Energy Costs (SSEN) Pass-through
- Hebrides and Orkney Whole System (SSEN) Re-opener
- Shetland Enduring Solution (SSEN) Re-opener
- Shetland Extension Fixed Energy Costs (SSEN) Re-opener

7.9 We currently expect around £5.3bn expenditure to come through uncertainty mechanisms during the RIIO-ED2 period. Around £3.1bn (60%) of this relates to pass-through costs, of which c. £1.8bn are business rates. Volume drivers represent around 20% of the total and reopeners circa 15%, with the remaining circa 5% being UIOLI allowances. By the end of the RIIO-ED2 period we expect the reopener figure to increase as a proportion of the whole, as further submissions are made and determined. The non-reopener figures are taken from the PCFM and include both reported RIIO-ED2 actuals to date, and forecasts, for the remaining RIIO-ED2 period.[82]

7.10 We propose building upon the RIIO-ED2 and RIIO-3 uncertainty mechanisms, in particular ensuring that the framework provides the adaptability required to amend outputs and allowances in relation to network investment, as new information materialises.

7.11 Below we note the proposed approach across each of the uncertainty mechanisms. Further details of our proposed approach to adaptability and managing uncertainty in respect of network investment is provided in Chapter 3.

[82] With the exception of reopeners, figures are taken from the PCFM (https://www.ofgem.gov.uk/publications/ed2-price-control-financial-model) and include both reported RIIO-ED2 actuals to date, and forecasts, for all UMs (including bespokes), for the remaining RIIO-ED2 period. Figures are in real terms using 2020/21 price base. Reopener figures include the sums that have been approved to date or are under consultation. Figures exclude indexation (real price effects (RPEs), cost of debt, cost of equity, inflation indexation of RAV and allowed return).

Pass-through costs

7.12 Pass-through costs allow for an adjustment to some specific allowances for costs incurred by the network companies, over which they have limited or no control.

7.13 Pass-through costs are not subject to the TIM and therefore companies are not strongly incentivised to seek ways to reduce them. Whilst the opportunities to reduce pass-through costs may be limited, given the significant amount of funding that is subject to pass through (forecast to be c. £3.1bn for the whole of the RIIO-ED2 period), even relatively small savings could be material for consumers.

7.14 We have therefore reviewed the pass-through costs that exist under the RIIO-ED2 framework and are exploring whether it might be possible (a) in some specific cases, to bring these into the baseline and manage the cost uncertainty through the TIM or (b) to remove specific pass-through cost categories in favour of a miscellaneous pass through, controlled by Ofgem.

7.15 It may be appropriate to move pass-through costs into the baseline where the DNOs have some ability to manage these costs. A key example is business rates (c. £1.8bn[83] forecast in ED3). Under the water sector PR24 price control framework, companies are incentivised to reduce their business rates costs through the use of a 10% TIM ie, 10% of any cost saving/over cost is retained/met by the company, with 90% passed through to consumers. We are considering whether a similar approach might be appropriate for ED3.

7.16 The principle of a miscellaneous pass-through, controlled by Ofgem, is to allow for multiple cost categories to be passed through, including categories that had not been anticipated at the outset. This approach has worked well to manage the socialisation of Supplier of Last Resort (SOLR) costs in the gas distribution sector in GD2 and is being retained in GD3. Two specific pass-through cost categories (bad debt claims by IDNOs and SOLR) were introduced in RIIO-ED2 and a miscellaneous category removed. We think that reintroducing a miscellaneous category controlled by Ofgem in ED3 would provide the flexibility to allow certain pass-through costs, for example, relating to bad debt and SOLR, whilst also enabling us to allow other unforeseen costs to be passed through during the price control period, where these are fully outside of the companies control.

[83] Figures are in real terms using 2020/21 price base.

Options considered but not proposed

7.17 We considered leaving business rates as pass-through costs and ultimately may decide that this is still appropriate. However, given the scale of business rates costs in particular, and the regulatory precedent in the water sector, we believe that it is right to explore whether an alternative approach may be more beneficial for consumers in ED3.

7.18 In their response to our Framework Consultation, two DNOs proposed that transmission connection charges should be treated as pass-through costs. Currently, where works are required to reinforce GSPs or parts of the transmission network at connection asset sites (GSPs that supply only one DNO), such costs are levied on DNOs and subsequently socialised or recovered directly from connecting customers.

7.19 We acknowledged in the Connections Action Plan the need to clarify the regulatory position relating to such works, particularly considering the different approaches being taken by DNOs to the onward charging of such costs, and the difference in outcomes for connecting customers, depending on the type of GSP affected.

7.20 We will continue to work with industry to provide the regulatory clarity required and as a minimum will provide guidance to the DNOs as part of our business plan guidance, to ensure a consistent approach is taken to the assessment of costs arising for DNOs and their connecting customers over the ED3 period.

UIOLI allowances

7.21 UIOLI mechanisms adjust allowances where the need for work has been identified, but the specific nature of work or costs are uncertain.

7.22 We plan to retain the existing common UIOLI cost categories, though there will be limits on the proportion of cyber allowances that are subject to the UIOLI element, as further described in Paragraph 6.174 and we are consulting on the scope of the visual amenity UIOLI allowance, as described in Paragraph 804.140 (Environmental framework).

Volume drivers

7.23 Volume drivers adjust allowances in line with actual volumes where the volume of work required over the price control is uncertain (but where the cost of each unit is stable).

7.24 As noted in Chapter 3, as a result of our more proactive approach to network investment, with the majority of funding provided through baseline allowances,

the role of the secondary reinforcement and LV services volume drivers will change in ED3. The wider context and alterative options are described in Chapter 3.

7.25 In RIIO-ED2 we provided funding, through a volume driver, for the removal of transformers containing harmful PCBs, in accordance with The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000, as amended.[84] This legislation requires that transformers contaminated with PCBs on 31 December 2025 are decontaminated or disposed of as soon as possible. DNOs are legally bound to comply with these requirements. We decided in RIIO-ED2 to allow the volume driver mechanism to run for the duration of the current price control, because of the degree of uncertainty around the testing of transformers and the refinement of replacement schedules during RIIO-ED2. However, given the timing of ED3, starting over two years after the 31 December 2025 date in the legislation, we are minded to remove the PCB volume driver in ED3, as we expect DNOs to have decontaminated or disposed of all contaminated transformers before the start of ED3 and therefore funding should no longer be required.

7.26 In RIIO-ED2 we introduced an indirect scaler volume driver to adjust indirect cost allowances in line with direct cost allowances provided through LRE uncertainty mechanisms. This meant that if a DNO received significant LRE uncertainty mechanism allowances, they would also receive associated funding for indirect costs relating to project management and other related management costs.

7.27 Given our proposal to fund a greater proportion of load allowances as ex ante, rather than relying on uncertainty mechanisms, we will keep under review whether the existing approach to funding indirects remains fit for purpose. Where indirect requirements can be forecast with a similar degree of certainty as load allowances in ED3, then an ex ante allowance for indirect costs may be more appropriate than an in-period funding mechanism.

Re-openers

7.28 Depending on their design, reopeners allow Ofgem to adjust a licensee's allowances (in some cases up and in some cases down), outputs and delivery

[84] The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000

dates in response to changing circumstances during the price control period. Ofgem can do this by direction rather than by a statutory consultation, provided certain requirements are met, in line with the Electricity Act 1989. Some re-openers apply to all DNOs, whereas others are bespoke to an individual licensee.

7.29 In our Framework Decision we said that by setting the majority of the network investments before the price control begins, alongside the additional certainty provided by the introduction of strategic planning, we anticipate there should be a lesser need to use multiple reopener mechanisms. We also said that we would consider whether a rationalisation of reopeners may be possible.

7.30 Since our Framework Decision, we have further considered the use of the RIIO-ED2 reopener mechanisms to establish whether the relevant uncertainty still exists and whether there may be opportunities to remove specific reopeners and/or rationalise several reopeners into a single mechanism in ED3, reducing company and regulatory burden.

7.31 Whilst there are sensible reasons to look at rationalising reopeners, there is also a risk that in doing so we lose the important specificity of individual reopener mechanisms.

7.32 Table 5 below shows where reopener mechanisms have been used to date in RIIO-ED2, and whether we believe there is likely to continue to be genuine uncertainty during the ED3 period that cannot be managed as part of the business planning process and setting of allowances at the start of the price control period. Whilst there are opportunities to consolidate some reopeners, for example in the area of resilience, in other cases we feel that the existing reopeners are sufficiently discrete and specific that any further consolidation would risk undermining differences and objectives.[85]

[85] The list of reopeners excludes the Authority's ability to undertake a tax review in RIIO-ED2 under specific circumstances.

Table 5: List of reopener mechanisms

Reopener mechanism	Use in ED2	Uncertainty change ED3 vs ED2	Uncertainty remains	Consolidate, retain or remove
Coordinated Adjustment Mechanism	No	Unchanged	Yes	Retain
Cyber Resilience IT	Yes	Reduced	Yes	Cyber Resilience
Cyber Resilience OT	Yes	Reduced	Yes	Cyber Resilience
Digitalisation	Yes	Unchanged	Yes	Retain
DSO	No	Reduced	Yes	Retain
Electricity System Restoration	Expected to be used	Unchanged	Yes	Resilience
Environmental	No	Unchanged	Yes	Retain
High Value Projects	Expected to be used	Reduced	No	Load adaptability
LRE	Yes	Reduced	No	Load adaptability
Net Zero	Expected to be used	Unchanged	Yes	Retain
Physical Security	Yes	Unchanged	Yes	Resilience
Rail Electrification	No	Unchanged	Yes	Load adaptability
Storm Arwen	Yes	Reduced	No	N/A
Streetwork Costs	Expected to be used	Unchanged	Yes	Remove
Wayleaves and Diversions	Expected to be used	Reduced	No	Remove

7.33 Overall, we propose reducing the number of reopeners from 15 to 7, as well as introducing a new set of adaptability mechanisms to manage changes arising from RESP and other relevant inputs that may impact investment plans.

7.34 We believe that the CAM, Net Zero, Digitalisation and DSO reopeners are needed and propose that these are retained in ED3. In the case of CAM, this mechanism provides the opportunity for whole electricity system solutions and

the transfer of allowances between regulated electricity networks. Digitalisation and DSO are fast moving areas where standards, targets and objectives are evolving. We want the price control to be adaptable to these future changes to maximise the opportunities for technology, data and digitalisation to support wider price control objectives. The Net Zero reopener remains an important tool in the event of significant changes (including acceleration or deceleration) to Net Zero related policies.

7.35 The Environment reopener also remains highly relevant in the ED3 period, with potential changes in legislation and standards relating to SF6 equipment expected during the period.

7.36 As noted in Paragraphs 6.176 to 6.177, we propose consolidating the two cyber reopeners and change this new single cyber reopener to be triggered by Ofgem only.

7.37 In our RIIO-3 Methodology Decision, we introduced a new resilience reopener. As set out in Chapter 6 (Paragraphs 6.151 - 6.163), we believe a similar approach would be appropriate for ED3, allowing companies to submit proposals during the price control period in response to emerging or unforeseen developments that for a range of reasons relating to system resilience, restoration, reliability and security. We are therefore proposing to create a single resilience reopener for ED3, providing a flexibility and transparent route to address material changes in risk or policy that are not reasonably foreseeable.

7.38 We expect the adaptability framework being explored in Paragraphs 3.64 - 3.82 would include the broad scope of the High Value Projects (non-load), rail electrification and LRE reopeners, ie allowing companies to fund certain activities relating to network development and investment that were not included in baseline allowances. We therefore propose that these reopeners are no longer required with allowances and proposals either being funded through the ex ante baseline or considered as part of the adaptability framework being explored in Chapter 3.

7.39 In RIIO-ED2 we introduced a new Wayleaves and Diversions reopener. With a greater focus on a longer-term, more strategic and programmatic approach to network investment, we are expecting companies to bring forward plans that they have tested for deliverability. This should include forecasts of the associated costs of wayleaves, diversions and streetworks (a separate reopener in RIIO-ED2). We are therefore interested in exploring whether the Wayleaves

and diversions reopener and the streetworks reopener could be removed in ED3 and instead, funding for these activities included in baseline allowances as part of wider network investment funding.

7.40 We believe that our proposed approach balances the need for retaining specific reopeners where there is genuine uncertainty and where specificity in scope is required, whilst also simplifying the regulatory framework and providing more funding at the start of the price control.

7.41 We will continue to consider appropriate materiality thresholds for reopeners over the course of the methodology consultation period, but our starting point is the thresholds for the RIIO-ED2 and RIIO-3 reopeners, the majority of which are set at 0.5% of base revenues.

7.42 Regarding the triggering of reopeners, we propose retaining the ability of either Ofgem or the DNOs to trigger reopeners, with the exception of the Net Zero, Resilience and Cyber reopeners, where we propose that these should be triggered by Ofgem only. The Net Zero and Cyber reopeners are only intended to be used in situations where there is a significant change to government policy impacting on DNO activities, or where the risk landscape changes during ED3. We therefore think it appropriate that these would be Ofgem triggered. In the case of the proposed Resilience reopener, our starting point is that this should be triggered by the Authority only, but we will continue to work with industry to understand whether it might be appropriate for some specific elements of the Resilience reopener scope to be company triggered.

7.43 In considering the level of uncertainty and relevance for ED3 we have considered the extent to which new known unknowns exist, such as the development or review of standards relating to security of supply and climate resilience. We have also considered the nature of the risk or uncertainty in proposing whether each reopener mechanism should be company or Ofgem triggered, or both.

7.44 The proposed list of reopeners for ED3 are summarised below. Where rationalised reopeners are proposed ie resilience and cyber, the starting point for describing the scope of such reopeners, will be the relevant RIIO-3 reopeners, where we have noted that genuine uncertainty remains in the table above, and the additional ED3 uncertainties noted below:

- Coordinated Adjustment Mechanism;
- Digitalisation;
- DSO;

- Environment;
- Cyber;
- Net zero; and
- Resilience.

7.45 As set out in Chapter 3 (Paragraphs 3.64 - 3.82), we are consulting on different adaptation mechanisms that will enable additional network investments to be delivered during ED3, for example to meet additional needs identified by the RESP, where such needs cannot be met through baseline funding.

Options considered but not proposed

7.46 In arriving at our proposals for ED3 reopeners we considered further consolidation of reopeners. For example, we considered creating a system operation reopener incorporating the DSO, digitalisation, CAM and system restoration reopeners. However, we decided that this risked losing the important specificity of these individual reopener mechanisms and therefore propose retaining these as separate mechanisms.

Consultation questions

Q119. Do you agree with our proposals for pass-through costs? Why?

Q120. Do you agree that we should consider incentivising DNOs to reduce costs associated with business rates? Why?

Q121. Do you agree with our proposals for volume drivers? Why?

Q122. Do you agree with our proposals to consolidate reopeners relating to resilience and cyber? Why?

Q123. Do you agree that costs associated with Wayleaves and Diversions and Streetworks should be included in baseline allowances? Why?

Q124. Do you agree with retaining the existing RIIO-ED2 materiality threshold at which reopeners can be submitted at 0.5% of baseline revenue? Why?

8. Business plan, delivery and efficiency incentives

Introduction

8.1 We recognise the importance of maintaining a stable and attractive regulatory regime, that both protects consumers and provides opportunity for companies to be rewarded for delivering the highest levels of service.

8.2 We said in our Framework Decision that we would use the regulatory framework to encourage a longer-term and more holistic approach to network planning and that DNOs will be more strongly held to account for the quality and efficient delivery of their plans.[86]

8.3 We therefore intend to develop a strong overall incentive package for ED3 focused on planning, delivery and efficiency, using the BPI, new delivery incentives and PCDs and a strong efficiency incentive, in the form of the TIM.

8.4 This chapter sets out our proposals, including an evolved BPI, with staged rewards; the TIM, including our proposals for greater consumer protections through the use of PCDs where appropriate; and consideration around delivery incentives for areas that are not otherwise captured by specific ODIs or PCDs.

Business Plan Incentive

Background

8.5 In RIIO-ED2 we decided to introduce a BPI to encourage the submission of complete and efficiently costed business plans, with rewards available for companies that were ambitious and went beyond what we expected as business as usual.

8.6 The RIIO-ED2 BPI provided a symmetrical penalty or reward, capped at +/- 2% of allowed totex, calculated as follows:

- In Stage 1, we reviewed business plans to ensure that they included sufficiently complete and high-quality information and imposed an upfront penalty of 0.5% of totex for failing to meet these minimum requirements.
- In Stage 2, we rewarded companies for proposing Consumer Value Propositions (CVPs), ie activities that went beyond BAU. The reward was proportional to the additional consumer value demonstrated in the CVP.
- In Stage 3, we reviewed forecasts of lower-confidence costs, ie those where, due to the absence of an independent benchmark, we were more reliant on company information in setting allowances. Costs deemed to be

[86] Ofgem | Framework decision: electricity distribution price control (ED3)

poorly justified were removed from allowances and subject to a 10% upfront penalty.

- In Stage 4, we reviewed forecasts for higher-confidence costs. Companies that submitted forecasts lower than the benchmark that we would otherwise have used to set their allowance, received an upfront reward. This was calculated using the Confidence-Dependent Incentive Rate (CDIR) – a blended incentive rate calculated as the weighted average of a 50% incentive rate on higher-confidence costs, and 15% on lower-confidence costs.

8.7 Using the above methodology, the overall BPI rewards calculated for each company in RIIO-ED2 are shown below in Table 6. No company received a penalty in RIIO-ED2.

Table 6: RIIO-ED2 Outturn BPI Rewards/Penalties[87]

DNO	Stage 1	Stage 2 (£ million)	Stage 3 (£ million)	Stage 4 (£ million)	Applicable cap/collar (+/- 2% Totex) (£ million)	Total Reward / Penalty (£ million)
ENWL	Pass	0	0	0	36.6	0
NPg	Pass	0	0	0	59.8	0
NGED	Pass	4.6	0	0	128.8	4.6
UKPN	Pass	0	0	25.5	108.6	25.5
SPEN	Pass	0	0	0	62.8	0
SSEN	Pass	3.5	0	0	77.4	3.5
Totals					**474**	**33.6**

8.8 Having considered lessons learned from RIIO-ED2, RIIO-2 more widely and feedback from stakeholders, we decided to make a number of modifications to the BPI for the three sectors subject to the RIIO-3 price controls (ET, GT and GD). Specifically, we set out three key objectives for the BPI:

- business plan information that enables us to set the price control effectively;
- ambitious cost forecasts; and
- ambitious output proposals that go beyond baseline expectations.

[87] Table 8: Final outcomes of the BPI for all companies. RIIO-ED2 Final Determinations Overview document.pdf

8.9 We also adopted simplicity and transparency criteria for the incentive as well as proportionality in the required level of resource intensity throughout the regulatory process.

8.10 In our Framework Decision we said that we will put in place a strong incentive to ensure efficient delivery and develop a BPI that focuses on planning and deliverability.

8.11 We also said that the BPI would be strengthened for ED3, with consideration around the potential for the BPI to not only drive the quality of plans, but also to ensure the delivery against those plans, with staged rewards linked to the delivery of commitments.

8.12 Finally, we confirmed that for ED3 we will align with the decision taken in RIIO-3 to limit the option for bespoke outputs and not to continue with CVPs as a distinct stage of the BPI.

Proposed approach

8.13 We propose building on the principles and structure of the RIIO-3 BPI but where necessary will centre penalties/rewards on the elements of the business plans that are most relevant to ED3 consumer outcomes. We will also continue to explore the potential for the BPI to not only drive the quality of plans, but also to ensure the delivery against those plans, with staged rewards, linked to the delivery of commitments.

8.14 With these principles in mind, we propose refining the BPI objectives for ED3, with the core purpose being to encourage DNOs to submit business plans that:

- enable us to set the price control effectively;
- are ambitious and of high quality; and
- have deliverability at their core.

8.15 The following sections describe the specific changes that we propose making to the BPI, building on the methodology that we established for the RIIO-3 BPI, to ensure the best possible outcomes for consumers in ED3.

Stage A (minimum requirements)

8.16 The minimum requirements represent the minimum amount of information needed for Ofgem to set the price control effectively. As such, we consider it appropriate that companies are penalised, for failing to meet the minimum requirements and consider it disproportionate to reward companies for providing the minimum level information. We therefore propose retaining the principle

from the RIIO-ED2 and RIIO-3 BPI of a list of minimum requirements, which must be satisfied to avoid a penalty.

8.17 We will ensure that our assessment of each minimum requirement is carried out with regard to the principles of proportionality.

Stage B (efficient costs)

8.18 In RIIO-3, Stage B of the BPI assessed the extent to which cost submissions in the business plans were efficient and well-justified. We used two distinct methodologies to assess the efficiency and justification of costs, aligned with how different costs were treated through the cost assessment process. We made a distinction between costs that were assessed comparatively between companies and costs that were assessed in a bespoke manner.

8.19 The Stage B process for assessing the efficiency of comparable costs (most relevant for GD and ED, where greater comparability and benchmarking is possible) mirrored the wider cost assessment process.

8.20 In RIIO-3, we set an asymmetric incentive for costs assessed in this way, with a higher reward than penalty. We applied a reward of 40 basis points (bps) return on regulated equity (RoRE) to the company with the lowest submitted costs and a penalty of -10bps for the company with the highest submitted costs. This asymmetry is representative of the way in which the frontier company has a greater impact on the setting of the benchmark for the notional company, compared to those companies that submit lower costs.

8.21 Under the RIIO-3 BPI, at draft determinations, companies whose submitted costs were higher than the efficiency benchmark, received a penalty. These companies also received a reduction to their proposed allowances through the application of the catch-up efficiency challenge within the benchmark modelling. The frontier company (the company with the lowest efficiency score in the benchmark modelling) was awarded its submitted costs (less adjustments for disallowed volumes and ongoing efficiency) as proposed allowances, rather than the modelled costs. It also received a reward under the BPI Stage B.

8.22 A key consideration for the BPI is the importance of companies submitting plans to us that they can deliver. One potential unintended consequence of a Stage B penalty is that less efficient companies under-estimate their costs to avoid a BPI penalty, which might in turn impact on the deliverability of the plan. In RIIO-3, Stage B for comparable costs was asymmetric, with a much smaller penalty (-10 bps) than reward (+40bps), reducing this risk to some extent. In any event we

will continue to subject plans to rigorous cost assessment to set allowances at the efficient level.

8.23 For RIIO-3 we decided that a Stage B reward was appropriate to drive frontier performance and that a penalty was appropriate to encourage all companies to submit efficient costs. We are interested in stakeholder views on whether the same Stage B structure is appropriate for ED3.

8.24 Evolving the RIIO-3 Stage B approach for ED3 could involve the following options:

- adopting the same approach as RIIO-3 with +40/-10 bps RoRE;
- increasing the asymmetry beyond +40/-10 bps RoRE;
- removing the penalty and moving to reward only; and
- removing Stage B.

8.25 The approach that we take to Stage B is also fundamentally linked to the wider approach that we take to cost assessment and the relationship between submitted costs and allowed revenues. As set out in the ED3 SSMC Cost assessment Annex we will carefully consider the incentive properties of applying ratchets in our ED3 cost assessment modelling suite and the interaction with the BPI. We will take on board feedback from the consultation as part of our considerations in this area to consider whether the design of Stage B may need to be changed.

Stage C (quality and ambition)

8.26 We propose retaining a strong focus on quality and ambition in Stage C, including in relation to the deliverability of business plans as well as incentivising new or additional commitments and/or consumer value, with the following proposed changes to the RIIO-3 BPI:

- We propose removing the clarity elements from the RIIO-3 Stage C and instead will consider whether it might be appropriate to include something on the overall clarity of the business plan at Stage A.
- We intend to request early proposals from companies such that, where we deem it appropriate, we can include a request for ambitious baseline requirements in all business plans through the SSMD and business plan guidance. We have started to discuss this concept with the companies and other stakeholders. Companies would potentially be rewarded through the BPI for proposals that have the potential to move the whole sector forward. The level of rewards could be linked to the consumer value that is delivered. Further detail is provided below at Paragraphs 8.32 - 8.38.

- We intend to focus Stage C on driving ambition and commitments in those areas of the price control that are new or where there is greater priority/focus in ED3, eg resilience, connections and vulnerability outcomes.
- Given the importance of delivery in ED3, we propose assessing the quality of Delivery Plans under Stage C.
- We are also considering whether it might be appropriate to incentivise the quality of innovation strategies through Stage C. This is particularly important in a situation where NIA allowances are set on a % base revenue basis as discussed in Paragraph 5.46. This could involve penalties for plans that are not of an acceptable quality.
- Given the removal of the clarity elements and the focus on deliverability, driving additionality and stretching ambition in new and priority areas, we are considering moving Stage C to be either reward only or asymmetric, with the potential for higher rewards than penalties.

Deferred rewards

8.27 As noted in our Framework Decision, we are considering the potential for the BPI to not only drive the quality of plans, but to also incentivise delivery against those plans with staged rewards which are linked to the delivery of commitments.

8.28 We are proposing that rewards relating to business plan commitments should be deferred pending delivery of those commitments. Rewards relating to new proposals that are received in response to this consultation (see 8.26 and 8.33 - 8.39), and which we decide should become requirements for all DNOs, would be paid at the start of ED3. However, where business plans are rewarded under BPI Stage C for bringing forward commitments which go beyond BAU, or are not otherwise incentivised, we propose deferring payment of rewards until after those commitments have been delivered.

8.29 At this stage we expect that deferred rewards would be allocated proportionately to specific commitments as part of our BPI determination at Draft Determinations, with completion of these outputs resulting in that proportion being released. This could mean that some BPI rewards would not be released until ED3 close out.

BPI strength

8.30 Initial analysis suggests that 60 bps RoRE (RIIO-3 strength) may be slightly stronger than 2% totex, for the electricity distribution sector (RIIO-ED2

strength), though this is highly dependent on baseline totex growth and other financial assumptions.

8.31 We will consider the overall strength of the incentive alongside wider policy issues in the period up to SSMD, taking into consideration responses to this consultation and wider stakeholder engagement via working groups and other forums. We will confirm the overall structure and strength of the ED3 BPI at SSMD.

Early proposals

Introduction

8.32 The ED3 price control setting process together with the evolving context in which this work is happening, creates an important opportunity for the sector to demonstrate leadership around some key issues. Examples include LCT connections performance, improving system resilience and reducing short/long duration interruptions, supporting vulnerable consumers, reducing the amount of energy lost or wasted across the system and driving value and insight through digitalisation and data sharing; in summary, new solutions and ideas that help to deliver the energy system transformation that is needed in a fair and sustainable way.

8.33 We are seeking to drive best practice across the sector, to ensure that consumers across GB benefit from the best ideas and service levels wherever they live. We are therefore asking DNOs to submit early proposals for ambitious and progressive new commitments and/or delivery and incentive mechanisms that could be incorporated into ED3 business plans and that benefit consumers.

8.34 Requesting early proposals provides us with the opportunity to consider whether these commitments or mechanisms could be made common for all DNO ED3 business plans, where appropriate and where it would be in the interest of consumers. Early proposals will also provide us with sufficient time to include them in our SSMD and business plan guidance.

Funding and rewards

8.35 We would expect to reward companies through the BPI where they propose commitments that ultimately become common requirements on all DNOs. However, it should be noted that no decisions have yet been made about either the principles of the wider ED3 BPI or how any early proposal reward mechanism might be incorporated.

8.36 Proposals that do ultimately become common requirements would need to be incorporated into each of the DNO's business plans. Whilst some proposals may

require additional funding, we do not expect this to always be the case. We are keen to see proposals that demonstrate DNO commitments to driving better outcomes, perhaps setting targets for new activities delivered through baseline funding or committing to savings from successful innovation projects.

Assessment criteria

8.37 We would expect to consider the following points when assessing proposals:

- new or more stretching commitments and/or delivery mechanisms;
- supports the ED3 outcomes and objectives;
- direct alignment to one or more of Ofgem's Consumer Interest Framework pillars;
- benefits grounded in strong evidence, drawing on sector specific intelligence, funded innovation projects, ISG engagement and/or wider consumer research;
- endorsement from third parties;
- quantification of potential benefits;
- clarity around the value add, ie why the proposal is not already BAU or incentivised elsewhere; and
- why DNOs are best placed to undertake the activity/provide the service.

Process

8.38 Companies should submit proposals alongside their SSMC responses using the template provided at Appendix 5. We will consult with stakeholders prior to publishing our decisions in respect of any specific new proposals, alongside the SSMD.

Consultation questions

Q125. Do you agree with our proposals to retain Stage A of the BPI as per RIIO-3 BPI? Why?

Q126. Do you consider that an asymmetric incentive for Stage B, weighted towards rewards, would deliver the greatest benefit for consumers, as per RIIO-3 and if not, do you consider that BPI Stage B should be removed?

Q127. Do you agree with our proposed changes to Stage C of the BPI, including our approach to seeking early proposals and the principle of deferred rewards? Why?

Q128. Do you have any views on the strength of the BPI?

Efficiency (TIM)

Background

8.39 As set out in our Framework Decision we will retain the TIM as a strong efficiency incentive during the ED3 period, enabling variations in spend against agreed allowances to be shared with consumers.

8.40 However, we also noted in the Framework Decision that the TIM will need to adapt to be focused on unit/project cost efficiency, with adjustment mechanisms for lower delivery, rather than pure cost incentives on the total quantum of expenditure.

8.41 Accordingly, the calibration of appropriate TIM incentive rates and the application of this incentive will evolve in ED3 to reflect our overall assessment of the risks faced by companies and consumers.

8.42 In ED2, TIM incentive rates were set mechanistically using a measure of cost confidence, linking the proportion of DNO costs that were 'high confidence' to the determination of the sharing factor, resulting in incentive rates between 49.3-50.0%.

8.43 Subsequently, alternative approaches have been taken to setting TIM incentive rates in other energy networks, as set out in our RIIO-3 Draft Determinations[88]. Subject to our RIIO-3 Final Determinations, in ET3, given the materiality of delivery risks associated with some ET3 capital projects, we expect the TIM will be stepped, gradually reducing company exposure to the risks of overspend whilst at the same time protecting consumers from very significant underspend. In GD3 we expect all GDNs will have sharing factors of 50%.

8.44 In ED3, there are a number of factors that impact our policy development, when considering the application and setting of the TIM incentive. These factors are summarised below:

- confidence in the setting of allowances;
- the need to ensure that companies have a strong incentive to identify ways to deliver outputs more efficiently; and
- the need to ensure that companies deliver the activities agreed through the business planning/determinations process and are not incentivised to reduce the scope of activity or to find ways of doing less. Material underinvestment has been reported in the first two years of the ED2 price control, though it

[88] RIIO-3 Draft Determinations

should also be noted that the DNOs currently forecast an overspend of 1.1% against allowances by the end of the RIIO-ED2 period.

Proposed approach

TIM setting

8.45 We expect to confirm the methodology and timing for setting incentive rates at SSMD. However, at this stage we feel that cost confidence is still a relevant factor when considering the level of sharing factors. We will therefore consider options for incorporating a measure of cost confidence into the setting of sharing factors prior to SSMD, though this is unlikely to be mechanistic, as was the case in RIIO-ED2 where cost confidence was a key part of the BPI assessment.

8.46 Given the above potential link to cost confidence, we are keeping the option open at this stage of different sharing factors for different companies.

8.47 We have considered cost category specific sharing factors but believe that this approach could add complexity to the overall incentive package and therefore we do not propose carrying this concept forward as a general principle. There may be some very specific policy areas or cost categories where different TIM incentive rates might be appropriate to manage consumer or company risks in a very targeted way, but we would expect these to be small in number. One example is business rates, where costs are 100% passed through in RIIO-ED2, with no TIM. We are considering whether it might be appropriate to introduce an incentive in this area. This could involve bringing these costs into the ex ante baseline but with a low TIM, to acknowledge the cost uncertainty and the ability of the DNO to control these costs. This would be consistent with the approach taken in the water sector through the PR24 regulatory framework.

8.48 We will consider TIM symmetry further and keep open the potential for an asymmetric TIM where there is evidence that this would be in the interest of consumers in ED3.

TIM application and conditionality

8.49 As noted elsewhere in this SSMC, we intend to hold companies to account in the delivery of their business plans. We are considering two approaches here that link directly to TIM. Firstly, the introduction of a greater number of PCDs, particularly relating to network investment, but also other areas of capital spend. Secondly, we are exploring the introduction of other mechanisms that would incentivise companies to deliver against outputs, agreed through the price control setting process.

8.50 TIM will apply to all totex but will be increasingly conditional on delivery, particularly in those areas that relate to network investment and other areas of capex spend.

8.51 The primary TIM conditionality tool will be PCDs. These mechanisms allow us to assess the completion of outputs and to adjust totex prior to the sharing of costs and benefits with consumers through the TIM. Where outputs are linked to capital investments, penalties could be applied through an ODI-F, however depending on the strength of any such penalties, PCDs may still also be required to adjust totex, removing the benefit of sharing underspends through the TIM, in the event that outputs are not delivered.

PCDs

8.52 In RIIO-ED2, PCDs apply to only a limited number of common activities, namely NARM (which itself only covers a proportion of non-load capex) certain cyber activities, plus some outputs that are bespoke to individual DNOs, such as UKPN's off gas grid PCD.

8.53 We have observed some material underspend in the first two years of RIIO-ED2, particularly in those parts of totex that are not covered by licence obligations, ODI-F, PCDs or some other form of consumer protection. We therefore plan to increase the amount of the price control that is covered by PCDs, enabling costs to be returned to consumers in full where outputs have not been delivered.

8.54 We expect PCDs to cover the majority of the investment plan, with evaluative PCDs for the largest projects and mechanistic PCDs linked to output delivery metrics for the remainder. In non-load, NARM beta will expand the use of PCDs beyond the core NARM framework and we will explore whether it might be appropriate to introduce evaluative PCDs for some larger, discrete, civils projects. Such projects have not been incorporated into NARM because of their complexity and bespoke nature but are essential for future deliverability and to enable network growth in the future.

8.55 In addition to these discrete, civils projects, we will also consider whether it might be appropriate for other categories within the non-load capex plan to also be covered by PCDs, prioritising those areas that are the most material and where there have historically been underspends. An example is Operational IT and Telecoms which is ~£80m (27%) underspent after 2 years. In some areas it may be difficult to establish very specific and tangible deliverables that can be linked to allowances. Where this is the case, other approaches (see Paragraphs 8.57 - 8.63 below) may be more appropriate.

Options considered but not proposed

8.56 We considered adopting the ET3 'stepped' TIM approach but we do not believe that this would be appropriate for ED3. A key driver for the design of the ET3 TIM incentive was to mitigate the risks of overspend associated with a small number of very large and complex projects that need to be delivered at pace. These types of projects are much less common in ED and we believe that other mechanisms and protections (RAMs, PCDs and reopeners) should provide the necessary downside protections for ED companies and consumers, to the extent that they are considered necessary, without diluting the strong incentive to deliver efficiency improvements. We therefore do not propose a stepped TIM for ED3, given the above and our broader ambition for regulatory simplicity, unless strong evidence materialises to the contrary through responses to this SSMC.

Incentivising delivery

Background

8.57 Delivery certainty and predictability are critical for both the supply chain and wider stakeholders, including those looking to connect to and use the distribution network. Greater levels of certainty around the profile of delivery also supports the reliable forecasting of network charges and reduces volatility.

8.58 We are consulting on a range of measures through this consultation that should increase delivery confidence and predictability over the ED3 period, including:

- a more consistent and strategic approach to network planning, with the development of long-term integrated network development plans, informed by tRESP outputs;
- a commitment to set the majority of allowances before the price control starts, alongside a range of measures to strengthen delivery accountability, including PCDs, particularly in relation to network investments;
- a requirement for detailed Delivery Strategies to be submitted as part of company business plans, ensuring that DNOs have the relevant supply chain partners, organisational design and systems in place to deliver, with potential penalties for business plans that don’t meet our minimum requirements (BPI Stage A);
- a potential reward under BPI Stage C for plans that do have well evidenced delivery strategies with associated deliverables and spend profiles, with rewards being deferred until deliverables have been achieved; and

- confirmation that where preparatory activities require additional funding before the beginning of ED3, we will consider reopener submissions in RIIO-ED2.[89]

8.59 Taken together, we feel that the above measures should provide greater transparency, confidence and predictability in delivery. However, we are also interested to hear from stakeholders whether additional mechanisms might be necessary to encourage or incentivise (a) the annual delivery (profile) of outputs, in addition to overall 5-year price targets and/or (b) the delivery of outputs in certain parts of the price control where it may be difficult to establish very specific and tangible deliverables that can be linked to allowances or BPI Stage C rewards, eg some non-load capex categories.

8.60 As an example, RIIO-ED2 includes an LRE close-out mechanism that can be used to claw back allowances at the end of the price control if a minimum of 80% of certain LRE allowances have not been spent. We do not think that something equivalent will be required in ED3 for LRE, given the additional controls being proposed through this consultation. However, something similar could be used in ED3 for some cost categories where other more targeted, output-based mechanisms are less feasible or appropriate, ie where it is difficult to establish very specific volumes, or tangible deliverables, that can be linked to allowances; examples could include some elements of operational IT and telecoms or environmental spend. We are therefore interested in exploring whether something similar, linked to TIM and potentially annual outputs or totex forecasts might be appropriate.

8.61 We expect companies to innovate and to find efficiencies in delivery. Any target(s) under this mechanism would be set to provide sufficient headroom to deliver efficiency savings against allowed totex. However, the principle that we are interested in exploring through this consultation is that material underspends, particularly in the early years of the price control, are more likely an indicator of under delivery or poor planning, than of genuine efficiency. If that is the case, it may not be appropriate for DNOs to benefit from receiving a share of any material underspend.

8.62 In all cases, the interaction of any such mechanism, with wider ODIs, uncertainty mechanisms and PCDs, will be an important consideration. As a

[89] We have confirmed that there will be two further LRE reopener windows in RIIO-ED2; a new January 2026 window, in addition to the original January 2027 window.

general principle we will want to avoid duplicative or contrary incentives in ED3, leading to unintended consequences.

8.63 The scope of any additional mechanism would therefore be key and we would envisage any such mechanism applying only to those elements of the price control where incentives or some other form of controls do not exist, rather than to the whole of an investment plan or across totex.

Consultation questions

Q129. Do you agree with our proposed approach to setting TIM sharing factors? Why?

Q130. Do you agree with our proposals regarding the application of PCDs? Why?

Q131. Do you think that additional delivery incentives might be needed in ED3 and if so in which areas?

9. National Infrastructure Commission (NIC) recommendations update

9.1 In February 2025 the National Infrastructure Commission (NIC)[90] published a report on the electricity distribution network.[91] The report set out 14 recommended actions for government, Ofgem, and the NESO, across digitalisation, standards, strategic planning, the price control, connections, planning reforms and skills and supply chain.

9.2 In our Framework Decision, published in April, we provided an initial response[92] to the 11 recommendations that were relevant to Ofgem, and in July this year the UK Government published their response to the NIC recommendations.[93] Below we have provided an updated response the 11 recommendations for Ofgem and, where relevant, have set out how we intend to deliver against them through the ED3 price control.

Recommendation 1 – Government should introduce measures to maximise the use of flexibility across the electricity system, working with the National Energy System Operator and Ofgem to deliver the Low Carbon Flexibility Roadmap by the end of 2025. This should cover the role of flexibility and digitalisation across all parts of the electricity system, including:

- **Working with Ofgem to update the smart meter rollout plan by the end of 2025, including measures to fix smart meters not currently operating in smart mode.**
- **Implementing the smart appliance mandate for heat pumps in 2026;**
- **Working with Ofgem and Elexon to deliver market-wide half hourly settlement by 2027 without further delay.**
- **Supporting industry to improve flexible asset registration.**

Ofgem updated response

9.3 We have worked closely with government and NESO to deliver the Low Carbon Flexibility Roadmap,[94] which includes actions to improve the smart meter roll out, ensure the timely delivery of market-wide half hourly settlement, and progress policy on smart heat mandates and asset registration.

[90] As of the 1 April 2025 the NIC is no longer operating and is now part of a new organisation - NISTA, within HM Treasury. For the purposes of this document, we will still refer to the NIC as they carried out the review.
[91] [ARCHIVED CONTENT] UK Government Web Archive - The National Archives
[92] Chapter 9: Framework Decision
[93] Electricity Distribution Networks study: government response - GOV.UK
[94] Now called the clean flexibility roadmap: Clean flexibility roadmap - GOV.UK

9.4 We now consider the action of delivering the Low Carbon Flexibility Roadmap complete, but we will continue to work closely with DESNZ and NESO to ensure successful delivery of the actions.

Recommendation 2 – Government and Ofgem should review security of supply standards for distribution networks to ensure that they are designed for future loads and vulnerable customers are protected. As part of business planning for the next price control:

- **Ofgem should require DNOs to identify 'no regrets' activities that would improve security of supply.**
- **government and Ofgem should work with DNOs to agree the detailed work required to review security of supply standards and how this will be undertaken.**

The full review of security of supply standards should then be completed by the end of 2028.

Ofgem updated response

9.5 With respect to 'no regrets' activities to improve security of supply, in Chapter 6 of this document, under the sub-heading 'reliability', we set out our intention to enhance the IIS incentive and retain the WSC UIOLI scheme for ED3. Both of these schemes encourage DNOs to invest in reducing CIs and so improve security of supply. Further, we have committed to reviewing the VoLL, which, if increased, will bolster the economic justification for intervention options that incrementally enhance security of supply. We believe these will better ensure 'no regret' activities to improve security of supply will be identified.

9.6 With respect to a review of security of supply standards, we note that the NIC report stated that "current security of supply standards assume low levels of flexibility and low diversity of demand, as well as low levels of digital network capability and smart device integration. Sensible investment and modelling of these new features should lessen the amount of network build required to maintain a high level of security of supply". The security of supply standard for distribution networks is Engineering Recommendation P2/8, a Distribution Code document. This standard prescribes the minimum demand to be restored within defined periods in different outage scenarios, however it does not prescribe a methodology for forecasting demand. We therefore consider a review of security of supply standards will not address assumptions on flexibility, demand diversity and smart devices and networks as the NIC recommendation intends.

9.7 Aspects of demand forecasting and the assumptions underpinning this are encompassed within the tRESP, which is expected to be published in January 2026. This will be followed by a RESP. Ofgem and DESNZ will jointly be asked to approve the RESP methodology (expected March 2026), and as part of that process we will ensure demand forecasting assumptions are reviewed in line with the intent of this recommendation.

9.8 We will also engage with the Distribution Code Review Panel to ensure any interactions or applicability to P2/8 are reflected in the standard.

Recommendation 3 – Ofgem and the National Energy System Operator should set out a clear statement of accountability for the Regional Energy Strategic Plans. This should include the decisions that the system operator will be empowered to take in developing the plan, how they will assess network investment plans in a proportionate way, and the stages at which different actors will have the ability to input and challenge.

Ofgem updated response

9.9 We published the RESP Policy Framework in April 2025 which sets the foundation for our response to this recommendation.[95] We will add further detail on our expectations for governance and accountability in the licences and accompanying guidance (currently in consultation) which set the parameters for NESO's delivery of the RESP.[96] We are working closely with NESO to oversee their development of the RESP methodology, which will provide further clarity on accountability, decision-making processes, and opportunities for actors to input and challenge in creation and use of the RESPs. Ofgem and DESNZ will jointly be asked to approve the RESP methodology, with the approval decision expected in March 2026, and as part of that process we will ensure it delivers in line with this recommendation.

Recommendation 4 – Ofgem and the National Energy System Operator should develop structured ways for local authorities and other local stakeholders to input into the Regional Energy Strategic Plans.

- **The National Energy System Operator should proceed with plans to make tools and advice available to local stakeholders to support their planning role. Government should also assess what additional capacity and capability is required for local authorities to engage**

[95] Regional Energy Strategic Plan policy framework decision | Ofgem
[96] Regional Energy Strategic Plan Policy consultation on Licence Modifications and Guidance Document | Ofgem

meaningfully with the process and provide the necessary financial support for them to do so.

- **Local authorities must have structured mechanisms to input meaningfully into Regional Energy Strategic Plans, even if they are not on the strategic board or have not completed a formal local energy plan.**
- **Local decarbonisation targets and strategies should be enabled as far as reasonably possible, where projects are underpinned by credible plans for delivery.**

Ofgem updated response

9.10 As per recommendation 3, the publication of our RESP Policy Framework in April 2025 forms part of our response to this recommendation. This outlines how RESPs will be enabled by engagement with local stakeholders and sets out requirements for NESO to (1) develop structured and accessible routes for local stakeholder input and (2) provide proportionate support to enable local authority participation. These requirements will be further detailed in NESO's licence and accompanying guidance (currently in consultation) and in NESO's RESP methodology, which we will be asked to jointly approve with DESNZ. As part of the approval process (expected March 2026) we will ensure it delivers in line with this recommendation.

Recommendation 5 – Ofgem and the National Energy System Operator should use the Regional Energy Strategic Plans as a vehicle to improve planning and data in the sector. As part of the process, the National Energy System Operator should:

- **develop a register of projects 'in development' that have not yet had connection applications submitted; and**
- **publish the plans in both an open data format, and through a publication that is accessible and understandable to all energy system actors, including local government.**

Ofgem updated response

9.11 The RESP Policy Framework has been written to align to this recommendation and we will work closely with NESO to ensure it is achieved. NESO's license and accompanying guidance document (in consultation) gives further detail, for example setting a requirement on NESO to establish effective data sharing protocols. We expect NESO to set out how it will respond to the specific actions

within this recommendation in their RESP Methodology and will ensure this is delivered as part of the approval process expected to conclude in March 2026.

Recommendation 6 – Ofgem and the National Energy System Operator should set out a proportionate transitional plan for the Regional Energy Strategic Plans to inform the next electricity distribution price control. This should be delivered far enough ahead of decisions about the price control to enable network business planning. It should give network operators confidence in the investment pathway for the whole price control period as well as an indication of the longer-term trajectory of investment.

Ofgem updated response

9.12 Earlier this year, Ofgem issued an open letter laying out the expected scope of the tRESPs.[97] NESO responded, detailing its intended timeline and approach for developing the tRESPs.[98] NESO's development of tRESPs has been informed by extensive stakeholder engagement through regional forums and technical working groups. In the latter, distribution network operators have had early sight of draft outputs for comment and challenge. In July, the tRESP methodology was approved by the tRESP Steering Committee, comprised of representatives from Ofgem and DESNZ. NESO is currently consulting on the draft tRESP outputs.[99] Publication of the tRESP is expected in January 2026.

Recommendation 7 – Ofgem should base future price controls around a rebalanced set of objectives focused on long-term requirements for the distribution network that deliver wider consumer value, alongside consumer costs. These objectives should include Ofgem's net zero and growth duties, as well as strengthening network resilience and delivering high quality customer service, including connection outcomes. Funding mechanisms and incentives should be designed to deliver these objectives.

Ofgem updated response

9.13 In our Framework Decision we set out our overarching objective for ED3, which is to enable the energy transition at distribution in the most efficient way delivering benefits for consumers over the long-term; supporting decarbonisation, promoting sustainable economic growth, driving improvements in customer service and maintaining high levels of resilience.

[97] https://www.ofgem.gov.uk/sites/default/files/2025-02/open-letter-scope-of-transitional-regional-energy-strategic-plan.pdf
[98] https://www.neso.energy/document/356186/download
[99] ADD FOOTNOTE TO NESO CONDOC

9.14 This objective sits across our four consumer outcomes, which align with our consumer interest framework, net zero and growth duties.

9.15 The funding mechanisms and incentives are being designed against the overarching objective and in line with our consumer outcomes. Through this document you can see the proposals being brought forward for new and existing incentives and funding mechanisms. We will make a decision on these mechanisms and incentives through our SSMD.

Recommendation 8 – Ofgem should orientate the next price control around allowances set before the price control begins. Funding mechanisms should be set at a sufficient level to enable proactive investment. This should include:

- **using re-opener mechanisms only where there is genuine long-term uncertainty and the process and objectives for re-openers is proportionate to the investment being considered; and**
- **setting allowances to enable a 'touch-the-network-once to 2050' approach as standard, to build resilience and minimise the overall costs of investment to deliver net zero.**

Ofgem updated response

9.16 We have progressed in implementing this recommendation and in Chapter 3 confirm that we intend to set baseline funding where DNOs can demonstrate strong alignment between the proposed ED3 investments and their long term, integrated network plans in a cost-effective manner. We will then hold the DNOs to account in delivering these plans and are consulting on potential options to track ED3 investment commitments into delivery.

9.17 We agree with the recommendation to only use re-opener mechanisms where there is genuine long-term uncertainty and the options we are consulting on to track delivery do include some flexibility within the ED3 ex ante allowance, and therefore will reduce the need for multiple re-opener mechanisms. However, there will still be a need for DNOs to adapt their investment plans in order to accommodate entirely new additional investment needs, which were unforeseen when the ED3 price control was set. More widely we are also consulting on streamlining the number of uncertainty mechanisms (see Chapter 7) and are proposing to reduce the number of re-openers from 15 (as currently in RIIO-ED2) to 7.

9.18 To support a proactive investment approach, as set out in Chapter 3 we are consulting on proposals for the long-term integrated network development plans. These proposals include the objectives that should ensure DNOs take a

strategic, co-ordinated and proactive approach to low-regret network investment, meaning delivery is aligned with long-term systems needs that optimise value across multiple investment drivers.

Recommendation 9 – Ofgem should accelerate no regrets activities such as proactive unlooping and off-gas grid reinforcement. Government should also set a date for the elimination of looped supplies to inform Ofgem's approach to delivery and enable DNOs to develop a programme for completing the work across multiple price controls.

Ofgem updated response

9.19 We have progressed in implementing this recommendation and Chapter 3 sets out further details on what we expect to be included as part of the DNOs long-term integrated network development plans, supporting a proactive approach to network investment and accelerating no regret activities.

9.20 Specifically on unlooping we are consulting on the requirement for DNOs to adopt a programmatic approach to providing low voltage services, such as unlooping. Through our proposals on connection incentives we are consulting on incentivising the installation of LCTs, which would include LCT enabling works (such as reactive unlooping) (see Chapter 4). The ongoing end-to-end connections review should also support aspects of this recommendation by further encouraging proactivity from DNOs to make their networks ready for increased connection activity and requests.

9.21 We note in the government's response to the NIC review, they do not agree that a date should be set for the elimination of looped supplies. We will therefore continue to work with DNOs to integrate a programme of low regret activities into the ED3 and the longer-term plan.

Recommendation 11 – As part of the next price control, Ofgem should introduce minimum standards for DNOs. These standards should include:

- **agreed connections guidance for all customer types and all DNOs, including indicative pricing and connection timescales;**
- **enabling all domestic customers to apply for the installation of more than one low carbon technology through a single application, regardless of where they live; and**
- **developing common digitised connection documentation to be used across all network operators.**

Ofgem updated response

9.22 Ofgem and DESNZ published their joint Connections Action Plan (CAP) in November 2023[100] to focus on actions to improve the connections process and reduce connection timescales for projects that were both ready to connect and aligned with net zero needs. The CAP set out six key actions in order to reduce significant delays to connections customers were facing. Section 3.5d of the CAP committed to a review of "the incentives, obligations, and standards relating to transmission and distribution connections". To support this commitment, a call for input in support of an 'end-to-end review of the regulatory framework' was launched on 8 November 2024[101] to gather industry views on how the current regulatory framework could better align with the reformed connections process.

9.23 As per the government's response to the NIC Recommendations, Ofgem is the identified owner of this action. All of the actions in this recommendation will be addressed by the end-to-end connections review.

9.24 Minium standard setting and/or service commitments, standardised and simplified customer journeys, requirements on networks companies to meet connection dates and routes to recourse for customers affected by it, ambitious connection offers, transparency and accountability, and working towards a 'single digital view', are foundational components of the end-to-end review. All these components need to be in place to achieve our stated outcomes of quality service and timely connections. As a long-term policy programme, changes to the regulatory framework will be made incrementally, with intention to have much in place by the start of the ED3 period.

Recommendation 12 – Ofgem should strengthen the incentives for delivering major connections in the next price control, with a view to sustaining this approach in future price controls. The reformed incentives should:

- **appropriately incentivise performance across each part of the major connections process, including 'pre-application' engagement and post-offer 'negotiation' phases, through financial rewards and penalties based on clearer performance expectations;**
- **measure distribution network operator performance robustly, with requirements to publish connections performance data, including timeliness of connection offers and actual connections delivery; and**

[100] Ofgem and DESNZ announce joint Connections Action Plan | Ofgem
[101] Connections end-to-end review of the regulatory framework | Ofgem

- **offer appropriate rewards for high performance, as well as penalties for poor performance.**

Ofgem updated response

9.25 We support the recommendation to strengthen incentives for delivering major connections in the next price control and through this consultation have set out a number of proposals to deliver this.

9.26 Chapter 4 sets out our proposals in this area, including amending the incentive that is applied to the current Major Connections Customer Satisfaction Survey (MCCSS) metric to a penalty/reward mechanism, introducing a financial Time to Connect (TTC) metric and making alterations to the MCCSS to ensure a wider customer experience is covered. We also propose that incentives on major connections can also be supplemented by applying penalties to non-compliance with minimum standards/SLAs that are considered under the end-to-end connections review.

9.27 The findings from the first stage of the end-to-end connections review and its next steps are expected to be published before the end of the year. We will continue to ensure both the end-to-end connections review and the development of the ED3 methodology are developed in tandem with the intention of ensuring that DNOs are doing all they can within the new connections process to drive up standards and ensure timely connections.

Ongoing delivery of the NIC recommendations

9.28 As we move through the price control, and make decisions on the methodology, we will continue to have regard to the NIC recommendations. We will next provide an update in the Sector Specific Methodology Decision, due Spring 2026.

9.29 We will continue to work closely with government and NESO as we set the price control for ED3.

10. Your response, data and confidentiality

Consultation stages

10.1 The consultation will be open until 03 December 2025. Responses will be reviewed and the Sector Specific Methodology Decision will be published in Spring 2026.

How to respond

10.2 We want to hear from anyone interested in this consultation. Please send your response to ED3@ofgem.gov.uk

10.3 We have asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

10.4 We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, your data and confidentiality

10.5 You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

10.6 If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not* wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

10.7 If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of the GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 6.

10.8 If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

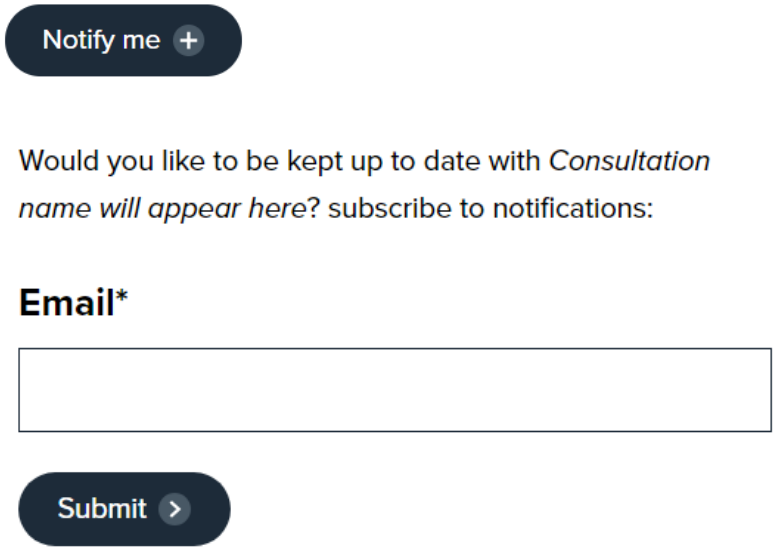
10.9 We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Choose the notify me button and enter your email address into the pop-up window and submit. ofgem.gov.uk/consultations



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

Upcoming > **Open** > **Closed** (awaiting decision) > **Closed** (with decision)

11. Appendices

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Appendix 1 Consultation questions

Long-term integrated network development plans

Q1. What are your views on our regulatory guiding principles that will inform the development of accountable investment planning and delivery?

Q2. Are the proposed objectives for the long-term integrated network development plans appropriate?

Q3. What are your views of proposed structure and contents of the plan?

Q4. Do you agree with the proposed use of tRESP outputs in DNOs' network impact assessments?

Q5. What are your views on the guidelines for proactive investment decision-making across all DNOs?

Q6. Do you agree that LV network reinforcement and unlooping of legacy service connections are suitable areas for a programmatic, area-based approach in ED3? Why or why not?

Q7. What are your views on the need for national consistency in the delivery of proactive unlooping programmes?

Strengthening delivery accountability

Q8. What are your views on high-level delivery accountability options and their respective strengths and limitations?

Q9. Should delivery accountability mechanisms prioritise certainty over flexibility when funding low-regret, proactive investments aligned with strategic value decarbonisation and growth goals?

Q10. Are additional delivery incentives needed, or can a combination of accountability mechanisms and output-based incentives sufficiently ensure delivery performance?

Adapting for additional investment needs during the ED3 period

Q11. What are your views on the assessment of the adaptability mechanisms, and should additional criteria be included?

Q12. How could the adaptability options be refined or combined to better support timely and strategic investment during ED3?

Q13. How can adaptability mechanisms be designed to ensure DNOs respond quickly to new network needs while maintaining transparency, accountability and value for money?

Q14. What are your views on the proposed timing of the RESP reopener windows in years 2 and 4 of ED3?

Conceptual models for ED3 delivery

Q15. What are your views on the combination of mechanisms presented in the two conceptual models? Do they effectively illustrate how different regulatory tools could be packaged to support strategic delivery in ED3?

Q16. In the context of ED3, do you consider that we should put more emphasis on Plan and Adapt or Plan and Deliver — to be more appropriate for achieving the guiding principles set out in Paragraph 3.5? Please explain your reasoning.

Q17. Are there additional mechanisms or combinations of mechanisms that should be considered to better support strategic, accountable, and adaptable delivery in ED3? If so, how might they complement or improve upon the models presented?

Connections

Redefining connection types

Q18. Do you agree that the connection types of 'minor' and 'major' should be redefined? If so, do you have thoughts on how they should be redefined, via voltage works required, customer type, a blend of the two, or a split not considered here?

Q19. Do you have views or suggestions on how redefining connection types, with potentially more types being introduced, will be able to be operationalised at this level of granularity? See Paragraph 4.18.

Incentives for smaller connections

Q20. Do you agree with our proposal for LCT connections and their associated enabling works to be brought into the connections scope and incentivised, with the potential to set varying working day targets for different connection activities? Why?

Q21. Do you agree the incentive should be reward and penalty (as per the RIIO-ED2 minor connections incentive)? Why?

Q22. Do you think any LCT connection incentive should be for domestic, non-domestic, or both? Why?

Q23. Notwithstanding the proposals we have set out under 'Redefining Connections Types', do you have alternative proposals for what DNOs need to do to speed up connection times for LCTs, and what incentives (other than those we have discussed in this chapter, obligations and/or funding may be required to support this? (chapter 4)

Incentive for larger connections

Q24. Do you agree changes should be made to the MCCSS to increase participation and better reflect the customer journey? If so, what changes do you think are required and why?

Q25. Do you agree with the proposals we have set out for changing the incentives for the RMS for the MCCSS for the purposes of encouraging faster and more transparent connections and improving the quality of offers and post-offer services provided by DNOs? If not, what other proposals do you suggest?

Q26. Do you think we should financially incentivise the TTC metric in order to accelerate connections and achieve the right outcomes? Are there other changes we should consider? How would any change sit alongside the current incentives?

Q27. Do you see value in incentivising SLAs/minimum standards? How should it be done and are there any associated risks or impacts?

Q28. Do you agree that we should not pursue the options we have set out that we would not consider further, ie incentivising flexibility and the SO:TO incentive? Why?

Q29. Notwithstanding the proposals we have set out under 'Redefining Connection Types', do you have alternative proposals for how to incentivise timely connections and improve the quality of service for larger connections?

Broad Measure of Customer Service

Q30. Do you agree with removing the 'Connections Survey' and the LCT related elements from the 'General Enquiries Survey' from the CSS part of the BMCS and putting this into the new smaller connections incentive? Why?

Q31. Do you agree that the remaining surveys under the BMCS CSS then be split between 'Planned Interruptions', 'Unplanned Interruptions' and 'General Enquiries'? Why?

Q32. Do you agree with the proposal to also report on and incentivise PSR vs Non-PSR survey results for each interruptions survey? Why?

Q33. Do you have a view on what weightings should be applied to the different surveys now proposed for the CSS part of the BMCS? Why?

Q34. Do you agree the CSS part of the BMCS should remain a penalty and reward incentive? Why?

Q35. Do you agree with our proposals to retain the complaints metric as a penalty-only incentive and to leave the weightings applied to each category unchanged? Why?

Q36. Do you agree with our decision not to take forward the proposals set out in 'options considered but not proposed'? Why?

Consumer vulnerability

Q37. What is your view on the PSR Reach metric and whether this should form part of the AVR as a reputational incentive? If we were to continue this metric as a financial incentive, do you think it should continue as a reward/penalty or penalty only and should we change the weighting?

Q38. What are your views on the Social Value metric and the CSS elements of the CVI incentive. Are there any areas you think we should amend or adapt for ED3?

Q39. Do you think the targets for the CVI metrics should be made common across DNOs? Why?

Q40. Do you think the AVR should be carried forward as an ODI-R to ED3, and why? If it is carried forward, are there any changes you think should be made to the structure and content?

Energy efficiency

Q41. Do you have any views on our proposal for DNOs to play a bigger role in the delivery of energy efficiency and low carbon measures?

Environmental framework

Q42. How should the EAP baseline expectations be revised to drive improved environmental outcomes in ED3 and beyond?

Q43. What criteria should be prioritised in a structured evaluation of DNOs' EAP for ED3?

Q44. Is the proposed approach to SF_6 - focusing on reducing both absolute emissions and the total SF_6 bank - appropriate and proportionate?

Q45. Do you think we should introduce a specific mechanism to hold DNOs to account for delivering on their Fluid Filled Cables reduction targets? If so, what should this take the form of?

Q46. How can tools like the AER and PCDs be used to strengthen delivery and accountability of the EAPs in ED3?

Consumer voice/research

Q47. Do you have any comments on the proposed guidance on consumer research set out in Appendix 3?

Enhanced stakeholder engagement (Independent Stakeholder Groups and guidance)

Q48. Do you have any comments on the proposed ISG guidance as set out in Appendix 4?

Accountability for consumer outcomes

Q49. Do you agree with our proposal to retain and adapt SLC50 Business Plan Commitment Reporting? Do you have suggestions for how the reporting should evolve?

Q50. Do you agree that we should proceed with the development of a Consumer Value Framework for ED3 and if so, do you agree with the principles set out above as the basis for developing a CVF?

Digitalisation and data

Q51. Do you agree with our proposed approach on all five themes? Why?

Q52. Do you agree with the need and role of the independent expert panel on interoperability? Why?

Q53. Do you agree that DSAPs should include outcome-linked digital spend? Why?

Innovation

Q54. Do you agree that we should maintain the current NIA Eligibility Criteria? Why?

Q55. Do you agree with our suggested approach for assessing and setting NIA? Why?

Q56. Do you have examples of projects that weren't able to deploy in RIIO-ED2 due to the lack of funding, or that you anticipate wouldn't be able to deploy in ED3 without the extension of the Deployment Fund to cover DNOs in ED3?

Q57. Do you perceive a lack of coordination and direction as an issue for the deployment of innovation in the ED sector, and do you think a similar intervention to the TID is needed to resolve this?

Q58. Do you agree that further incentivisation is needed within the price control for innovation that doesn't primarily benefit networks? Do you have evidence to support this?

Q59. Do you have any feedback on what kind of mechanism would best provide this incentive, while ensuring that networks are only rewarded for actual delivery of consumer or system benefit?

Distribution System Operator (DSO)

DSO network planning

Q60. Do you agree with our proposed scope for the DSO's role in network planning for ED3, including leading long-term integrated development planning and enhancing forecasting? How should DSOs ensure that future iterations of these plans align with emerging strategic inputs such as the Regional Energy Strategic Plan (RESP) and Strategic Spatial Energy Plan (SSEP) when they become available?

Q61. How should DSOs best coordinate with other parties (eg NESO, local authorities, iDNOs, gas networks) to deliver whole-system outcomes through network planning? Are there specific governance or data-sharing arrangements that should be strengthened?

Q62. What additional data, digital tools, or visibility improvements are needed to enable DSOs to deliver proactive, spatially targeted network planning in ED3? Please provide examples of gaps or best practices.

Q63. How should DSOs incorporate flexibility services and connection process improvements into their network planning approach to ensure timely, efficient, and predictable connections? Should this be incentivised, and if so, how?

Flexibility

Q64. Do you agree that changes are required to the CEM tool to implement our proposed approach in ED3? Are any other changes needed?

Q65. How can we best ensure that flexible connections aren't deployed at the expense of network reinforcement?

Q66. How can we best ensure that DER/CER are not prevented from accessing wider flexibility markets due to the use of ANM or lack of NESO-DSO coordination?

Q67. Are further incentives required to incentive and encourage the use of flexibility in line with our approach for ED3?

Voltage management

Q68. Do you agree with the proposed voltage management responsibilities, for DSOs? Are there any aspects you disagree with, or any additional responsibilities we should consider?

Q69. In your view what would be appropriate metrics or KPIs by which the success of delivery of these responsibilities could be measured? For each of these metrics or KPIs, should this target be codified in a licence condition or otherwise incentivised?

Q70. How can we support DSOs in getting access to useful 3rd party voltage data from assets such as EV chargers?

Q71. Do you support our proposal to include the reduction of reactive power injection on the transmission from distribution networks? Are there additional implications of this on the operation of distribution networks we should consider?

Q72. For each of the options outlined for Providing Flexibility what are the advantages and disadvantages, and which would be your preferred option, including any that we have not considered?

Q73. Do you have any comments on the proposal for the creation of a new incentive for the provision of flexibility through demand reduction?

Q74. Do you support the requirement for a published voltage management strategy from each DSO, with an annual reporting requirement?

Losses

Q75. Do you agree with the proposed working-level definition of loss optimisation as a cost-based, system-wide approach to managing distribution losses?

Q76. Do you support Ofgem's focus on loss optimisation over loss reduction in ED3? Why?

Q77. How should we embed loss optimisation into ED3 and what are some of the challenges with this?

Q78. What mechanisms should be used to monitor and assess DNOs' impact on network losses, and how can loss optimisation be embedded into planning, operational, and investment decisions under ED3?

Q79. Do you believe there is a case for introducing financial or discretionary incentives to encourage active loss optimisation by DSOs? If so, what form should these incentives take (eg direct financial, reputational, discretionary rewards), and what risks or complexities should be considered?

Q80. Are there additional strategic or policy measures you believe should be considered in ED3 to manage losses?

DSO incentive framework

Q81. Do you agree that the proposed aims for the DSO incentive framework appropriately reflect the core functional areas for ED3 (flexibility services, network planning, voltage and loss management)? Are there any additional priority areas that should be included, and how should these be measured?

Q82. How should the incentive framework evolve to reflect the DSO's more proactive role in network planning, operational use of flexibility, flexibility market development, and whole-system coordination?

Q83. Are the current parameters (Stakeholder Satisfaction Survey and Performance Panel) an effective way of measuring DSO performance? How do you view the role of Regularly Reported Evidence (RRE) in complementing these assessments?

Q84. How can the DSO Incentive be designed to complement, and not duplicate, other mechanisms such as the Connections Incentive, BMCS and the Interruptions Incentive Scheme?

Resilient networks - Introduction

Q85. Are there additional risks, dependencies or policy areas that we should consider strengthening network resilience in ED3 beyond those set out in this chapter? (chapter 6)

Network Asset Risk Metric (NARM)

Q86. What are your views on setting outputs on additional asset classes not currently reported in NARM?

Q87. What are your views on our proposed approach to increasing our reporting on non-NARM assets to improve our understanding of asset health?

Q88. What are your views on our approach to enhancing data assurance on the data input into the NARM? Are there alternative ways we could enhance our data assurances processes?

Q89. What are your views on introducing subsidiary targets in NARM to hold DNOs accountable to their Business Plans? Are there other ways we could hold DNOs accountable?

Q90. Do you agree with our approach to enabling the future effects of climate change on asset deterioration to be modelled in NARM?

Climate resilience

Long-term goal and stress testing

Q91. What are your thoughts on our phased approach to stress testing which seeks to provide greater clarity on investment costs and rationale whilst building up capabilities to support government in setting national resilience standards/goals?

Q92. What are your reflections on the stress testing methodological framework for the first phase (see Climate resilience stress testing methodological framework annex)? Does it align with your expectations of the responsibilities of a DNO and current capabilities? Can you foresee any support or changes that might improve its effectiveness? Do you have any views on priorities for future phases of work?

Hold to account

Q93. Do you agree with our proposed granular approach to categorising climate resilience investment to hold DNOs to account? What are your views on the suggested categories (ie direct, incremental, load, non-load, operational, reactive, incremental and transformational)? How can we ensure that this works effectively alongside other approaches in ED3, notably LRE and asset health proposals? What are the risks and challenges?

Improved rationale

Q94. Do you agree that strengthening the rationale for investments is required to allow for differences in local contexts between networks and that our proposed approach to improve guidance for climate resilience strategies and business plans is the best way to do this? Do you agree that we need a clear link between CRS and LINDPs and what are your thoughts on how we can do this?

Longer term re-openers and future price controls

Q95. Do you think we have struck the right balance between early action and building long term capability? Can you identify any other areas for early action on climate resilience?

Q96. Do you agree with our approach to introduce Climate Resilience Metrics and Indicators (CRMI) at the start of ED3 and use the learnings to shape future decisions (either for future price controls or via a re-opener)?

Q97. Do you have any views on the proposed CRMI Framework (Climate Resilience Metrics and Indicators (CRMI) Annex)? Do the CRMI Framework objectives and attributes reflect what's needed to measure climate resilience? Are there specific metrics or indicators we should consider?

Reliability

Q98. What is the impact of short interruptions on consumers and are certain regions or customer groups more affected? Do you expect the severity of these impacts to change over the ED3 period? If so, in what way and why?

Q99. What drives short interruptions and how can these be reduced? Could innovation, data analytics, and enhanced network visibility play a role in reducing the frequency and impact of short interruptions? If so, how?

Q100. Do you agree that a formal mechanism should be introduced to recognise and address the experiences of customers significantly impacted by short interruptions? If so, what form should this mechanism take (eg enhanced reporting, adjustments to existing incentives, or alternative mitigation approaches)?

Q101. Are long-duration outages becoming a more significant concern, and could a targeted IIS incentive or penalty for 12+ hour events effectively address this? How could such a mechanism work and are there system or data barriers to implementing it?

Q102. How should multiple unplanned interruptions be defined (qualifying criteria similar to WSC?) and monitored over time, and could targeted incentives or reputational tools help improve outcomes for customers who are persistently affected?

Q103. Do you agree we should review the extreme weather event thresholds for IIS to determine whether they are still appropriate in light of the changing climate? If so, do you have a view on the possible approaches we have set out, and why.

Q104. If our review of the extreme weather event threshold does result in a change in the threshold for IIS, how do you think we should manage the interaction with GSoPs?

Q105. Should the IIS be amended to reflect the expected increase in planned interruptions from the increase in network investment in ED3? If so, how, and how can this be done whilst ensuring that customer impacts are effectively mitigated?

Q106. Beyond the UIOLI mechanism, what additional regulatory or operational measures could be introduced to ensure sustained and equitable improvements for WSCs?

Q107. Is the current threshold for defining WSCs still appropriate? If not, what principles should guide any revision to ensure it remains fit for purpose?

Q108. Is it appropriate to update the VoLL for ED3? Do you think price control mechanisms that utilise VoLL should use a more dynamic value? If not, how should the results of the study feed into a revised uniform figure

Resilience re-opener

Q109. Do you agree with our proposal approach to introduce a resilience re-opener? Why?

Cyber

Q110. Do you agree with our proposed approach to cyber resilience in ED3, and do you have any suggestions for improvements?

Supply Chain and Workforce

Q111. Do you agree with our proposal to require a ten-year Delivery Strategy (ED3+ED4) that embeds supply chain and workforce plans? Are the content expectations complete and proportionate? Where should we be more/less prescriptive and why?

Q112. Do you agree that DNOs should publish annual equipment and people volumes for ten years to provide better market visibility? What minimum granularity would be most useful to suppliers and training providers?

Q113. Do you agree that Delivery Strategies should be in scope of BPI Stage A and Stage C? What evidence and criteria should we emphasise in assessing quality and credibility?

Q114. Should we introduce a supply chain and workforce monitoring framework for ED3 and future price controls? What metrics and reporting frequency would provide the greatest value while remaining proportionate?

Q115. What do you consider essential for these mobilisation reopener windows in RIIO-ED2 to be effective in supporting timely ED3 delivery? For example, how should we specify eligible activities (eg design, surveys, factory deposits), require evidence of supplier commitments, or introduce minimum thresholds for submissions? Are there other measures that would make these windows more useful in accelerating mobilisation and reducing ED3 delivery risk?

Q116. How can DNOs demonstrate active engagement in industry and government-wide initiatives such as DESNZ's upcoming industry-led Electricity Networks Sector Growth Plan, the Transmission Operators skills alliance, and OCEJ's Clean Energy Workforce Strategy? What steps should Ofgem take to ensure DNOs play a leading role in these programmes?

Q117. What is the current level of UK content and social value in supply chains for distribution network investment?

Q118. Are there features of the price control framework that create barriers to sourcing from UK suppliers or SMEs? How could Ofgem enable greater social value in a way that protects consumers, ensures value for money, and remains compliant with trade obligations?

Re-openers

Q119. Do you agree with our proposals for pass-through costs? Why?

Q120. Do you agree that we should consider incentivising DNOs to reduce costs associated with business rates? Why?

Q121. Do you agree with our proposals for volume drivers? Why?

Q122. Do you agree with our proposals to consolidate reopeners relating to resilience and cyber? Why?

Q123. Do you agree that costs associated with Wayleaves and Diversions and Streetworks should be included in baseline allowances? Why?

Q124. Do you agree with retaining the existing RIIO-ED2 materiality threshold at which reopeners can be submitted at 0.5% of baseline revenue? Why?

Business Plan Incentive

Q125. Do you agree with our proposals to retain Stage A of the BPI as per RIIO-3 BPI? Why?

Q126. Do you consider that an asymmetric incentive for Stage B, weighted towards rewards, would deliver the greatest benefit for consumers, as per RIIO-3 and if not, do you consider that BPI Stage B should be removed?

Q127. Do you agree with our proposed changes to Stage C of the BPI, including our approach to seeking early proposals and the principle of deferred rewards? Why?

Q128. Do you have any views on the strength of the BPI?

Incentivising delivery

Q129. Do you agree with our proposed approach to setting TIM sharing factors? Why?

Q130. Do you agree with our proposals regarding the application of PCDs? Why?

Q131. Do you think that additional delivery incentives might be needed in ED3 and if so in which areas?

Additional questions relating to cost assessment and finance can be found in the cost assessment and finance annexes.

Appendix 2 Approach to IA

Approach and scope of ED3 Sector Methodology Impact Assessment

Introduction

A2.1 This section outlines our proposed approach and scope for the ED3 Draft and Final Determination Impact Assessment (IA), drawing on lessons from RIIO-ED1 and RIIO-ED2. We propose to follow a similar approach to Draft Determinations for RIIO GD3 and T3. The basic concept is to consider that ED3 is a natural evolution of the RIIO-ED2 price control.

A2.2 Appendix 1 of the Framework Decision set out Ofgem's proposed methodology for assessing the impact of the ED3 regulatory framework.[102] The goal of ED3 framework analysis was to evaluate how different regulatory models affect consumer outcomes, system performance, and broader societal goals, including net zero and economic growth.

A2.3 The analysis was structured using distinct regulatory archetypes:[103]

- **RIIO-ED2 Evolution** - retains existing structures, focusing on incremental reform;
- **ED3 Proposed Framework** - introduces strategic planning, anticipatory investment, and streamlined incentives; and
- **Freedom and Accountability** (FA) - emphasises local discretion, output-based regulation, and reduced central oversight.

A2.4 These archetypes were used to carry out comparative analysis across multiple dimensions:

- **Consumer Outcomes** - affordability, service quality, equity, and vulnerability support.
- **System Outcomes** - decarbonisation, flexibility, reliability, and resilience.
- **Economic Outcomes** - investment efficiency, supply chain stimulation, and regional development.
- **Regulatory Outcomes** - transparency, predictability, and stakeholder confidence.

A2.5 The conclusion of this assessment was that the proposed ED3 framework offers better support for strategic planning and better mechanisms for proactive

[102] Framework Decision
[103] There were more options analysed but we focus on the three main ones.

investment than a RIIO-ED2 Evolution approach. It also aligns more closely with net zero and growth duties. Freedom and Accountability was not considered because it offered higher risks of fragmentation and reduced accountability.

A2.6 Some other considerations of the analysis of regulatory framework options were:

- flexibility and adaptability are essential to manage uncertainty;
- stakeholder engagement and consumer outcomes must be central; and
- financeability and investor confidence require careful calibration of returns and risk-sharing.

A2.7 Following the regulatory framework decision, through this SSMC we are now consulting on the overall approach for the ED3 Draft Determination (DD) IA. It is quite early to undertake a quantified assessment of our decisions at this stage (and will be at SSMD) because we haven't yet received the business plans from the DNOs or made any decisions yet.[104] Therefore, we are consulting on the approach to take to IA at Draft Determinations. This includes what decisions should be considered in the 'do minimum' option and our preferred approach. It also involves views on the analysis of bill impacts and how the price control would meet other duties set to Ofgem in recent legislation.

Objectives of the Impact Assessment

A2.8 The ED3 price control, commencing April 2028, will shape the regulatory framework for electricity distribution networks in a period of rapid decarbonisation, digitalisation, and decentralisation. Ofgem's impact assessment (IA) must reflect new statutory duties on net zero and economic growth, and support strategic investment aligned with RESPs.

A2.9 The DD IA should:

- evaluate the economic, environmental, and social impacts of proposed regulatory options;
- ensure alignment with net zero and growth duties, including affordability and resilience;
- support anticipatory investment in distribution networks to meet future demand; and

[104] In other RIIO SSMC and SSMD we quantified some of the impacts by making assumptions about totex and other parameters. However, we had to revise these estimates again for Draft Determination. See for example: RIIO-ED2 Impact Assessment.

- provide a transparent evidence base for stakeholder engagement and policy decisions.

A2.10 Since our price controls respond to the need to regulate natural monopolies, we are not planning to include competition assessment. Financial resilience will be assessed in the Finance Annex. Security of supply and climate resilience will be considered as part of the environmental impacts. Other requirements from our IA guidance which we believe to be outside of the scope of this IA include Distributional Impacts and Public Sector Equality.[105]

Proposed scope for ED3 Impact Assessment

A2.11 This section discusses how we set out the policies and decisions in counterfactual scenarios and those in the ED3 proposed framework.

A2.12 There is no scope for a do-nothing option. RIIO-ED2 Evolution is the closest regulatory option to a do-minimum scenario, so we propose to use this as the counterfactual for assessment during DDs. Under the counterfactual, a large number of decisions that relate to the business as usual or natural evolution of the price control would need to be taken, for example, adjusting incentive parameters, setting new output targets, or removing elements of the price control no longer needed.

A2.13 We are aware that stakeholders will also be interested in comparing the resource implications of ED3 versus RIIO-ED2. In our bill analysis we will also show the delta between network cost between 2028-29 and 2033-34 after allowing for business-as-usual and ED3 additional investments. This is the same approach we followed for RIIO-3 Draft Determination IAs. Therefore, in our IA we will show changes with respect to the baseline in 2028-29 and changes that are policy choices.

A2.14 Our assessment of bill impacts will focus on domestic consumers. The bill impact on non-domestic consumers would be difficult to quantify. The effect of ED3 will vary significantly between non-domestic consumer types, both because there is a greater variation in the charging structure for different non-domestic consumers, and also because demand volumes vary so sharply. As a result, there is no equivalent simple calculation of the effect on a non-domestic consumer. We expect:

- energy intensive consumers connected to transmission not to be affected;
- microbusinesses to have a similar impact to domestic consumers; and

[105] Impact Assessment Guidance

- the impact on other non-domestic consumers to be difficult to assess as it varies according to energy use and connection profile.

A2.15 We are exploring what additional analysis for different non-domestic archetypes and provide more detailed views for Draft Determination.

A2.16 The ED3 price control reflects Ofgem's strategic shift toward a more streamlined, anticipatory, and system-led regulatory model, as outlined in the Future Systems and Network Regulation Framework Decision. Additional policy decisions are driven by the need to accelerate investment in clean energy infrastructure while maintaining affordability and resilience.

A2.17 Much of the evidence supporting our proposals for Draft Determinations will be set out in the Overview Document and associated annexes that are being published at the same time as this IA. This is the same approach that we have taken in previous price controls for two main reasons:

- We need to reduce the administrative burden and apply proportionate resources to the decisions we are proposing to make. There are many decisions involved in any price control and publishing a single IA covering all of these in one place would generate a large number of alternative options for assessment, making the IA unnecessarily complicated and repetitive on analysis already provided in other documents.
- Many of the decisions in the price control do not represent real policy changes but adjustments to the working of the existing price controls mechanisms. We are therefore concentrating the focus of this IA on matters where our proposed approach differs from that in RIIO-ED2.

A2.18 We think there are a number of policy proposals in ED3 that represent a significant departure from RIIO-ED2 and are necessary to meet decarbonisation of the power sector and other drivers such as long-term energy security. These policies are likely to affect network capital expenditure and the use of some mechanisms such as PCDs and UMs.

A2.19 One of the key differences between RIIO-ED2 and ED3 is that, in ED3, distribution investment planning will increasingly be guided by regional energy strategic planning, undertaken by NESO. ED3 should embed outputs from Regional Energy Strategic Plans (RESPs) and national spatial planning frameworks to ensure timely and coordinated infrastructure delivery.

Summary of ED3 significant changes to deliver the energy transition

- **25-Year Strategic Planning Horizon**: ED3 introduces a longer-term planning approach, integrating national and regional energy spatial plans to guide proactive investment.
- **Five-Year Price Control Period**: While the control period remains five years, it is embedded within a broader strategic context to provide visibility and confidence to investors and stakeholders.
- **Proactive Investment Enablement:** The framework supports anticipatory investment, particularly in lower-voltage networks, to meet rising electricity demand from heat, transport, and industry.
- **Enhanced Stakeholder Engagement**: DNOs are expected to collaborate closely with regional authorities and communities to align network development with local growth plans.

Summary of ED3 decisions that would also be in the counterfactual

- **Consumer Protection and Resilience**: ED3 maintains a strong focus on service quality, especially for vulnerable customers, and addresses climate resilience, cyber security, and supply chain robustness.
- **Smarter Networks and Innovation**: The framework promotes digitalisation, data sharing, and innovation to drive efficiency and unlock system flexibility.
- **Financeability and Investor Confidence**: Ofgem acknowledges the need for a stable and proportionate regulatory environment to attract capital and maintain low financing costs.

A2.20 This would follow a similar methodology to that used for RIIO-3. The IA will identify the network costs associated with our proposals and compare it with the costs associated with the counterfactual. In a nutshell, we will by deriving consumers' impacts from different levels of totex;[106] after applying incentives and uncertainty mechanisms under both options.

A2.21 Identifying the benefits of these proposals will be more challenging and we anticipate we will need to make similar assumptions to the ones we made in the Framework Decision document.

- The proposed option is intended to improve outcome delivery and supply chain confidence relative to the counterfactual. It will give greater

[106] Taking into account capitalisation, depreciation and the cost of capital.

confidence the supply chain that there is a funded and long-term plan to invest in the networks. This would result in savings from procurement.

- ED3 will help to increase the pace of local electrification, resulting in lower carbon cost and supporting an effective and timely energy transition.
- There will be benefits of avoiding deferral to the effective roll-out of local initiatives to move towards a net zero system. Avoiding deferral would also reduce supply side inflation.
- On the negative side, the proposed framework will result in less adaptability for the DNOs than the counterfactual. This is the offset to greater confidence: with more certainty of outcomes comes less adaptability to change outcomes.
- The greatest risk of net cost increases is likely to be from a higher present value from bringing investments forward.

A2.22 Finally, increased electricity distribution network investment would offer a wider range of benefits in many different activities:

- Enhanced resilience.
- Smarter, more efficient networks.
- Consumer-centric outcomes.
- Responsible and sustainable business practices.
- Energy security and independence.
- The most immediate impact of increased investment is higher energy bills for consumers. However, there will be lower bills once the benefits start to materialise
- Technological innovation and export potential.
- Economic growth and job creation.
- Net zero and wider environmental benefits

A2.23 Regarding the approach to quantification of benefits, some directly link to electricity networks and some are more indirect, such as the electrification of transport. We welcome evidence of these benefits in the form of data and case studies.

A2.24 Ofgem invites stakeholder views on:

- The appropriateness of the counterfactuals and ED3 network option.
- The robustness of the assessment criteria.
- The transparency and accessibility of the IA methodology.

- Opportunities to improve scenario modelling, assumptions, direct and indirect impacts

Appendix 3 Guidance on consumer research for ED3

Introduction

A3.1 In the recently published Framework Decision,[107] Ofgem set out its position on enhancing the consumer voice throughout the ED3 process. We committed to providing guidance on research undertaken by DNOs.

A3.2 Ofgem wants to ensure that the consumer voice is well represented and acted on in companies' business plans. We envisage two main pillars to support this mission: (a) consistent, high-quality, meaningful research, and (b) improved transparency on how research findings inform DNOs' business plans.

A3.3 The intention of this high-level guidance document is to help ensure consistency and transparency in research done by companies. It sets out broad research principles and methodological considerations that DNOs should actively consider when developing their research programmes. The guidance also sets out how Ofgem would expect DNOs to evidence their research and how it has informed decisions and direction. We will not specify the types of research we consider to be appropriate for different topic areas. It is for each DNO to decide how it approaches its individual research programme.

(A) High-quality research

A3.4 Developing a robust, balanced and proportionate research programme using a range of methods will allow DNOs to fully understand the customer perspective and considerations. This ensures that the topic in question is thoroughly studied, consumers are asked the right questions, and their answers are appropriately collected and reported. To achieve this, researchers must ensure that all stages of the research process adhere to certain standards summarised in the following Research Principles, Research Design, and Research Methods sections below.

Research Principles

A3.5 Ofgem expects DNOs to consider the principles that contribute to high-quality research when designing their research programmes to inform ED3. This includes:

- **Clear purpose:** Ensuring that research has clear objectives, aims to answer a clear, specific question ('Research question') and how it contributes to the business plan.

[107] Framework Decision

- **Inclusion:** Ensuring that research methodologies are inclusive, accessible and that the research programme is made relevant to all consumers, given the complexity of some topics.
- **Representativeness:** Selecting a sample that reflects the target population (eg including vulnerable customers, ethnicity, sociodemographic strata) and which can address research objectives.
- **Validity:** Research should capture appropriate data to a Research Question eg interrogate the correct data, or interview consumers with recent and relevant experience on a topic.
- **Impartiality:** Research should be designed to be neutral and free from bias.
- **Transparency:** Openness to report and discuss procedure (eg methods used), and limitations of the research.
- **Triangulation:** Ideally, research findings should be compared to other relevant research, to provide a 'reality check'. This has significant benefits for producing meaningful research and also helps contextualise research findings. Findings from various methodologies or projects should be compared and combined to form a narrative that brings the full consumer story together.
- **Ethics and Data Protection:** Research protocols should comply with current Ethical principles of the governing body of the respective research provider (eg The Market Research Society (MRS), Social Research Association or similar) and legal requirements (GDPR) for safe and responsible data use and storage.
- **Replicability:** The research should provide sufficient information to allow replication by a third party and should yield similar results when carried out in similar conditions.

Research design

A3.6 Research design summarises how a Research Question can be answered in the most appropriate way, within available timeframes and resources, and following good research principles (as above). We would expect most of these points to be developed by the research agents, but DNOs should have close oversight as ultimate owners of the research results. A good research plan should include, but is not limited to the following:

- **Research questions:** What is the question that needs to be answered? This should be one (or a handful of) questions that the audience of that

research (eg relevant stakeholders) wants to know about. Research questions guide the research design, and they need to be concrete yet high-level; therefore, they require careful consideration. For example, 'can consumers flex their energy use?' is a poor research question as it is not concrete enough to guide the research approach. By contrast 'under which conditions would owners of heat pumps in Wales flex their energy use?' is a better phrased research question, as it better helps to guide research towards a specific population, location, technology, and associated behaviours, motivators, barriers and so on.

- **Research methods**: What is the best tool that can answer the research question within available time and resources? The choice of a specific research method comes with associated trade-offs, sensitivity, and depth of understanding. Given the variety of research methods available, we provide a separate top level summary section on methods, below.
- **Analysis plan**: Suitable analysis of methods should be identified before data collection. This is important as data analysis requirements and limitations will inform other aspects of the research, such as sample design. For example, certain statistical analyses require a minimum number of participants per survey question; this in turn affects the sample design (ie the size and structure of a survey sample), which is critical to know before the survey is conducted.
- **Dissemination plan**: Who is the intended audience for the dissemination of these results? Different audiences will require different types and styles of outputs. It is therefore important to consider not only what question is answered and how, but for which audiences, to ensure maximum effectiveness of a research programme.

A3.7 While addressing the above points, the principles of good research should govern the remit and quality of the answer. For example, if a survey is the chosen method to answer a Research Question, it should provide enough information for it to be replicable, and it should adhere to appropriate Ethical guidelines.

Research methods

A3.8 Selecting a suitable Research Method to answer a particular Research Question is an important decision. However, there is no universal standard, and multiple methods may suit the same question. Ofgem does not mandate or expect the use of any particular methodology (for example, Willingness to Pay (WTP), or Acceptability Testing). The choice of method involves evaluating trade-offs, such

as cost, time, intensity of participation, depth and breadth of addressing a research question to determine which approach will elicit the most meaningful responses from participants, within existing constraints.

A3.9 Below we set out some of the most common categories of research methods, their strengths and limitations. This could assist with discussions with research delivery partners when developing research programmes.

Qualitative techniques

A3.10 Qualitative methods such as focus groups, in-depth interviews, and ethnographic studies are ideal for understanding complex trade-offs, prioritisation, and consumer needs.

A3.11 They provide deep contextual information and understanding of participants' behaviours, perceptions, preferences and allow for more grounded consumer considerations. They are well suited to answer why consumers do/don't perform certain behaviours, choices, or actions.

A3.12 These methods are better suited for deep understanding of complex topics. DNOs might consider such methods for an in-depth understanding of a research question, for example why would heat pump owners flex/not flex their energy use, what would motivate them, or how would they fit flexing in their daily lives.

Deliberative techniques

A3.13 Deliberative techniques allow participants to discuss and reflect on issues and topics in depth and at length. They provide rich contextual insights and rationale into respondents' decision-making and reasoning behind various trade-offs. They help consider others' views and consider the wider picture of an issue, or process.

A3.14 Deliberative techniques require intense involvement and so they can be more costly than other methods. Therefore, they are better suited for deep understanding of complex topics, and often where consensus is required or a process needs feeding into.

A3.15 DNOs might consider using well designed deliberative approaches where they would like to involve the consumer in the decision-making process (eg through 'citizens juries') or explore responses to issues affecting wider communities. For example, where new infrastructure needs to be installed in a neighbourhood.

Quantitative techniques

A3.16 Quantitative research (for example surveys) uses data collection at a larger scale, and in a structured way, which sets it apart from qualitative or deliberative methods. It allows better representation of the population and harvests more data points from more participants in a shorter time. Quantitative methods can be used where research questions need robust, statistically powerful amounts of data from a larger sample to strengthen the reliability of findings.

A3.17 However, the structured nature of these methods often mean that the researcher's understanding of an issue may be shallow. For example, a researcher might be able to understand what a great number of consumers would prefer or choose in a particular question, but not necessarily why. To mitigate this issue, careful design of the quantitative tool/method is required, to ensure that it can capture respondents' views as accurately as possible. User-centred quantitative research is particularly important in this respect as it builds the research protocol from a respondent's - not from a designer's - perspective. For example: a survey question on identifying heat pump users' barriers to flexing their energy use includes five barriers to choose from; these were provided by the survey design team. However, user-centred cognitive testing of the same question, might identify additional barriers, which would have been lost if the users were not involved in the survey design.

A3.18 An important aspect of all research which recruits human participants, and this is especially true for quantitative methods, is sampling. This refers to the criteria used for the selection and exclusion of research participants, whether they need to represent specific populations, and similar issues. Deciding the optimal size of a sample is equally important – generally speaking, sample size should be sufficient to conduct the necessary analysis and provide for reliable and statistically significant results. The sample size should allow for reporting by specific subgroups of interest.

Mixed Methods

A3.19 Mixed methods combine the use of both quantitative and qualitative methods to answer the same research question. Combining qualitative and quantitative approaches provides a more comprehensive understanding of research questions. Mixed methodologies enable triangulation of findings from different methods to build a bigger picture, enhance reliability of findings and provide richer insights. For example, a research project might combine a survey to

record electric vehicle charging patterns, with focus groups, to understand why users prefer these patterns.

A3.20 DNOs should consider where it is suitable to adopt mixed research methodologies to answer a research question; this will offer a more accurate picture of the issue at hand.

Behavioural Research

A3.21 These methods study actual, rather than self-reported behaviour, helping to overcome the 'say do gap' which is the difference between what people say they will do, for example in surveys, and what they actually do. They offer a valuable and powerful approach for understanding and influencing human behaviour. One method of behavioural research is observation. For example, to find out how consumers use their thermostat we might want to ask them to keep a diary explaining why and when they used it; or ask them to talk through the process of a behaviour while performing that behaviour.

A3.22 Other behavioural approaches include experimental methods (laboratory or online experiments, natural experiments or field experiments). Field experiments take place in real world settings, where lab or online experiments take place in a controlled environment. A randomised controlled trial (RCT) is a form of experiment that offers the most robust way of assessing what works to change or support human behaviour. This method involves randomly assigning participants to control and treatment groups in order to test behavioural interventions. This design helps isolate the effect of the intervention, making it ideal for identifying cause-and-effect relationships in relation to behaviour change.

Broader aspects for DNOs to consider as they assess the appropriateness of research approaches.

Inclusion

A3.23 Ofgem has a duty to protect vulnerable customers,[108] and therefore inclusive research is very important. This may involve using multiple channels for data collection (eg online surveys, telephone interviews, arranging appropriate face-to-face interactions) to reach the widest relevant audience. Support should be provided for participants and researchers who will be addressing sensitive issues. Ensure research approaches are inclusive of all target and relevant

[108] More on Ofgem's Consumer Vulnerability Strategy and definitions can be found here.

consumer groups including businesses, vulnerable individuals, and those who are digitally excluded/digitally less confident. Sufficient sample sizes of relevant subgroups should be achieved. Qualitative projects might need purposive recruitment (ie the selection of a sample based on specific characteristics), and for quantitative projects this might mean boosting the sample size to ensure there is enough of a sample to analyse.

Accessibility

A3.24 Researchers will need to outline how they will manage and support participant consent and wellbeing; the latter is especially important for qualitative and in-depth research.

A3.25 Any research materials will need to be accessible: Ensure that survey or interview questions, and other research tasks, are relevant to and understandable by the target audience. Use clear, jargon-free language and formats that are easy to understand. Consider visual aids and translations to accommodate different literacy levels and varying understanding of complex topics.

A3.26 Where relevant, provide alternate options for participation (eg offline, different times of day). Also be prepared to involve those who speak English as an Additional Language, for example by using interpreters.

A3.27 Further guidance can be found through relevant research accreditation bodies, eg the Market Research Society (MRS).

Length of data collection

A3.28 Some research questions need to be studied over a long period of time, while for others, a single 'spot check' will suffice. The former enables the building of trends over time, but longitudinal research is also more costly to run and maintain. DNOs should therefore assess the potential value of a longitudinal study (eg a panel survey) against its costs and resource intensity.

A3.29 DNOs need to carefully balance the suitability of research methods for a given research question, against the relevant cost of research, available resources, timeliness and accuracy of findings. Often, a combination of research methods (eg in-depth interviews, followed by a user-centred survey, triangulated with similar existing/published data) provides a better and more meaningful understanding of the research question, and helps build a better narrative as a result, compared to disparate individual research methods used in isolation.

A3.30 It should also be noted that Ofgem is not setting a requirement for DNOs to undertake research employing any specific methodology. The decision to adopt a

particular methodology rest with the DNOs, but we encourage companies to consider all of the above aspects of research, before coming to a decision on their chosen research design.

(B) Improved transparency and collaboration

A3.31 Ofgem expects DNOs to be able to demonstrate how the research findings are utilised for the benefit of the consumer and the company. Developing a clear process which demonstrates how the findings become a part of the business will complete the cycle which started with a research question. It evidences why the research was important in the first place, and what will be done with the results. This ensures that the learning acquired is used, and issues raised by the 'consumer voice' are properly acted on.

A3.32 When research findings are reported they should be done so in a manner that is clear, specific and unambiguous. Ideally research reporting should conform to standard scientific format. Quantitative reporting should include clear information on statistical significance.

Evidencing research findings

A3.33 We would expect DNOs to demonstrate how all their research findings have been used and influenced decisions within the Business Plans. Building on the RIIO-3 requirements around stakeholder engagement, we would like DNOs to provide a similar log detailing their research activities. This should include, but not limited to:

- A full list of all research projects commissioned and why.
- Details on the target sample (who did the sample include and why?).
- Specifics of the research topic and related research objectives as outlined above.
- The reasons why the particular methodology was chosen.
- A topline of the research findings.
- The ways in which the research findings concretely influenced the Business Plan. If they did not, an explanation should be provided.
- The Independent Stakeholder Group's (ISG) involvement in assessing the research and its view on the approach, findings and use. As set out in the RIIO-3 Business Plan Guidance[109], ISG should be "fully engaged in the development of the company's business plan". The company should provide

[109] RIIO-3 Business Plan Guidance

> "the ISG with information and evidence that has enabled the ISG to monitor how consumers and stakeholders have been engaged and how this engagement has affected the development of the ED3 business plan".

A3.34 Following the Framework Decision, we are providing further guidance on ISG membership role and remit.

A more collaborative approach on specific research areas

A3.35 We also consider that there are research areas of joint interest across the industry, where a more collaborative approach amongst DNOs would be beneficial to all. Working together will increase consistency in approach, allow for more comparable findings and reduce potential duplication of work. Ofgem will work together with DNOs to agree the areas where a more collaborative approach would be possible and beneficial.

A3.36 We believe that by addressing the outlined methodological considerations and evidencing research findings, this guidance will support DNOs in commissioning robust research and allow them to demonstrate transparency, document the impact of their research, and strengthen the presence of consumer voice in their Business Plans.

Appendix 4 Independent Stakeholder Groups - guidance

A4.1 This guidance aims to build on positive engagement during RIIO-ED2 and companies should continue to ensure that consumers and stakeholders remain at the heart of their ED3 business planning process, ongoing delivery and decision making.

A4.2 Each company should establish an ISG. The ISG will provide challenge and scrutiny to the relevant company both as it develops its business plan and on an enduring basis in the delivery of its plan. The ISG will have a role in ensuring the company engages widely and openly with its stakeholders. It is for the company to identify which stakeholders it thinks are relevant and for the ISG to challenge this. The ISG will represent the interests of consumers and stakeholders and will play an important role in holding the company to account in respect to the delivery of its ED3 commitments. The ISG will therefore remain central on an on-going basis beyond business plan development and throughout the price control (2028-2033).

A4.3 Each company will be responsible for:

- having in place an ISG and recruiting a Chair that acts in an independent capacity;
- ensuring the ISG is appropriately resourced, eg by providing the necessary secretariat support, information, training and induction for members;
- ensuring the ISG has access to relevant data, information and evidence which will enable it to provide meaningful input and challenge. This will include having access to the company's strategies and plans and to information relating to its performance and culture. This input must be available sufficiently promptly for the ISG to provide effective scrutiny and feedback and for the company to be able to demonstrate how it has considered the ISG's feedback in decision making prior to final submission of the business plan;
- providing the ISG with information and evidence that will enable it to monitor how consumers and stakeholders have been engaged and how any such engagement has affected the delivery of the company's ED3 business plan, the development of its ED3 business plan and company decision making during the ED3 period;
- providing the ISG with its vulnerability strategy, and social return on investment (SROI) data in respect of activities where baseline funding is sought to address consumer vulnerability;

- ensuring the ISG has information about the value for money for customers, including but not limited to the provision of clear bill impact data, of specific areas of funding. Companies should set this out in the context of an uncertain future;
- ensuring the ISG has access to relevant data, information and evidence that will enable it to provide meaningful input and challenge in the development and/or review of science-based business carbon footprint (BCF) targets;
- testing the quality and ambition of its business plan with the ISG;
- providing comparative data from other energy network companies (including RIIO-ED2 performance data) and from companies in other relevant sectors and such other background data as may be reasonably required and requested by the ISG;
- establishing clear terms of reference and governance arrangements for its ISG and publishing them on its website; and
- ensuring that the company's Board is fully engaged with the work of the ISG, and that this is reflected in the ISG governance arrangements.

A4.4 Each ISG is responsible for:

- determining how effectively key areas of concern to relevant consumers and stakeholders have been addressed in the company's business plan;[110]
- providing challenge and scrutiny of a company's business plan during its development, including the completeness and quality of the business plan [as formulated under criteria set out in the BPI] and monitoring delivery of the commitments in the plan;
- encouraging change towards a culture of more consistent, relevant and more effective stakeholder engagement by the company through scrutiny, challenge and monitoring of its engagement strategy, plans and performance; and
- providing insight and feedback to the company to allow it to act on this information and use it to inform decisions early in the process of business plan development.

A4.5 In addition, we may ask the ISGs to review specific areas of the business plans if we decide there is a particular need or significant consumer or stakeholder interest.

[110] The ISG is not expected to engage directly with stakeholders, nor comment on issues raised by stakeholders on specific schemes.

A4.6 We do not expect the ISGs to discuss or review specific financial topics, such as the cost of capital, treatment of debt or the level of gearing in the company. The companies should provide sufficient financial, and other information to the ISGs to enable them to understand the overall company risk and reward package proposed in the business plan. We do not expect the ISGs to undertake cost assessment or benchmarking. The companies should provide sufficient cost information to the ISGs to enable them to understand the overall totex package proposed in the business plan, including how efficiency and value for money is being demonstrated.

A4.7 In addition, we do not expect the ISGs to scrutinise matters of cyber Information Technology (IT), cyber Operational Technology (OT) or physical security upgrade plans (where relevant) with the company as these may involve sensitive information that it may not be appropriate to share with external parties.

A4.8 The ISG does not have decision-making powers nor does it jointly 'own' the business plan that the company submits. The ownership of the business plan sits entirely with the company. Engaging with its ISG is not a substitute for a company's engagement with its consumers, end users and other stakeholders.

A4.9 As part of its business plan submission, the company should include a statement, written and signed by the independent ISG Chair, confirming the following, as a minimum:

- That an ISG has been established by the company with clear terms of reference, governance and membership in accordance with the Business Plan Guidance and that the ISG has been fully engaged in the development of the company's business plan.
- That the company has provided the ISG with information and evidence that has enabled the ISG to monitor how consumers and stakeholders have been engaged and how this engagement has affected the development of the ED3 business plan.

Membership

A4.10 The ISG Chair will be responsible for recruiting ISG members that are able to act in the interests of existing and future consumers and stakeholders. They will have the ability, as a group, to scrutinise and challenge all aspects of the company's business plans (except for specific matters outlined in Paragraph A4.6 above) and provide challenge and scrutiny to the company in the delivery of their ED3 business plans. The membership should reflect the sector and

include senior representatives with suitable knowledge and expertise to enable meaningful challenge and robust engagement with companies. Members should act in an independent capacity and not solely as a representative of a particular organisation, or group of consumers or stakeholders.

A4.11 The chair should be appointed by the Network Company and must act independently. The chair may act as a spokesperson for the ISG and may attend regular meetings with Ofgem. In addition to a chair and vice chair, the membership of the ISG should include some level of technical knowledge, expertise on research and/or engagement, and a consumer champion or equivalent represented by Citizens Advice, Consumer Scotland, Energy Saving Trust, Sustainability First, National energy Action, or similar consumer body.

Scope of the Terms of Reference (ToR):

A4.12 The terms of reference for the ISG should clearly set out the membership, duration, scope, purpose, governance and expected outputs. It should be made clear that the ISG is not a decision-making body in the development of the business plan, but should provide informed challenge, advice and scrutiny, to ensure the consumers' interest remains central and is accurately represented.

A4.13 The ToR should contain details on how often the group is meeting, how records of meetings are kept, procedure for any potential conflict of interests, quorum and any other governance rules the network company deem necessary.[111]

A4.14 Finally, the ToR should clearly set out the expected outputs of the ISG in relation to its duties and core purpose. Examples of this should include an annual work programme, log of recommendations to the network company and end of year report on delivery against the annual work programme.

A4.15 Examples of expected outputs:

- support the companies in commissioning good research and stakeholder engagement to inform the business plans;[112]
- a log of recommendations to the network company;
- An annual programme of work, including details of actions and attached timescales; and
- An end of year report on delivery against the annual work programme.

[111] All members should declare any interest and potential conflict prior to joining the ISG and if there is a change in circumstances.
[112] Further detail can be found in the ED3 Guidance on Consumer Research (to be formally published in SSMC).

A4.16 We will adopt a framework within which Ofgem will engage with the ISGs to share insights and to provide feedback on progress.

Appendix 5 BPI Early proposals template

Licensee name	
Proposal name	
Type of proposal (confirm all that apply)	New or enhanced service Stretching commitment Delivery accountability mechanism
Proposal summary (Max 200 words)	
Which ED3 outcomes does the proposal support? (confirm all that apply)	Investing for the energy transition Responsible and sustainable business Smarter networks Resilient networks
Which Consumer Interest Pillars does the proposal support? (confirm all that apply)	Low cost transition Fair prices Quality and standards Resilience

Licensee name	
Summary of key reason(s)/driver(s) for the proposal (Max 200 words)	
Summary of supporting evidence (Examples could include references to sector specific intelligence, innovation projects, ISG engagement, wider consumer research, endorsement from third parties) (Max 200 words)	
Summary of potential benefits (Max 200 words)	

Licensee name	
Where the proposal relates to a new or enhanced service or to stretching commitments, explain why the proposal is not already business as usual or incentivised either through the existing RIIO-ED2 framework or under ED3 proposals that we are consulting on (Max 200 words)	
Where the proposal relates to a new or enhanced service, explain why DNOs are best placed to undertake the activity described under the proposal (Max 200 words)	

Appendix 6 Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. ie a consultation.

4. With whom we will be sharing your personal data

(Include here all organisations outside Ofgem who will be given all or some of the data. There is no need to include organisations that will only receive anonymised data. If different organisations see different set of data then make this clear. Be a specific as possible.)

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for (be as clear as possible but allow room for changes to programmes or policy. It is acceptable to give a relative time eg 'six months after the project is closed')

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data

- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas (Note that this cannot be claimed if using Survey Monkey for the consultation as their servers are in the US. In that case use "the Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in term of data protection will not be compromised by this".

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system. (If using a third party system such as Survey Monkey to gather the data, you will need to state clearly at which point the data will be moved from there to our internal systems.)

10. More information For more information on how Ofgem processes your data, click on the link to our "ofgem privacy promise".