

# Decision

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## ED3 Framework Decision

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The next price control (ED3) for the local electricity distribution grids will start in April 2028. In November 2024, we issued a consultation seeking views on the key issues that might affect this price control and on the framework we proposed to apply. This is our decision on the ED3 framework.

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## **Foreword**

The ED3 price control period will be a critical juncture on the pathway to a clean power system by 2030. It provides a crucial opportunity to invest in and build the local electricity network infrastructure required to enable the electrification of heat, transport and industry and open up routes to net zero.

This is a view shared by many experts. In February this year, the National Infrastructure Commission (NIC) published their review of the electricity distribution networks together with recommendations for how we should approach this price control.<sup>1</sup> The message was clear. We need investment now in anticipation of demand for electricity that will accelerate steeply in the next five to ten years.

We support the NIC recommendations, and we are bringing forward an ED3 framework that will drive this investment, ensure resilience, and deliver for consumers. This means we have had to evolve our regulatory approach.

Reforms to strategic planning (including through the creation of national and regional energy spatial plans) and the way the connection queue is managed have wide-reaching implications for ED3. These create the opportunity for a fundamentally different, longer-term approach to network planning and investment. As a result, ED3 will be a five-year price control period that is firmly set within a 25-year planning horizon. This longer-term visibility of network build will give confidence to consumers, investors, supply chains and support government in maximising the economic opportunities of the energy transition.

To deliver this, the distribution network operators (DNOs) will need to develop close relationships with regional stakeholders to understand how plans for housing and economic growth will impact on their networks. It's just as important that DNOs ensure customers can get connected to their networks in a speedy and efficient way, and that they continue to provide high levels of resilience, particularly given the shift to an economy that is increasingly reliant on electricity. We are also considering the wider roles that DNOs may be able to play in the future to help accelerate the net zero transition, for example, in relation to energy efficiency.

The increased expenditure required for the energy system transformation will need a financial framework that attracts investors by offering a fair return, with higher profits on offer in exchange for improved quality of service and lower costs. Equally, it is vital that our price control enables DNOs to remain financially resilient while delivering a step-up

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<sup>1</sup> As of the 1 April 2025 the NIC is no longer operating 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.

in investment and this will be a significant area of focus through the next phase of the price control.

All of these factors will have an impact on bills. In the short-term, network charges are likely to rise, but ultimately these network upgrades will pave the way for a clean energy system that supports the wider electrification of the economy. The benefits of this (in terms of lower carbon emissions, secure supplies and energy/fuel bills for consumers) are significant in the longer-term.

The choices that we need to make for this price control period will ultimately shape how we deliver on our net zero and growth duties. By ensuring we support the delivery of the capacity and resilience needed to meet our future energy needs, we are confident that in the longer-term this will ultimately be in the interests of current and future consumers.

**Akshay Kaul**

**Director General, Infrastructure**

## **1. Executive summary**

### **Context**

- 1.1 The electricity distribution system is at the heart of an unprecedented change in how and where electricity is generated and used. Enabling this transition to a more decentralised, cleaner and more digitally enabled electricity system is vital for wider economic growth, energy affordability and meeting net zero goals.
- 1.2 The companies that operate the electricity distribution networks in Great Britain are known as DNOs. DNOs are regulated by us under a price control framework that we review periodically.
- 1.3 This Framework Decision sets out how ED3 will deliver against the challenges and opportunities facing the electricity distribution sector.
- 1.4 Evidence of the pace of change in the sector can be observed in the number of policy statements, decisions and industry reports that have been published since the ED3 Framework Consultation in November 2024.
- 1.5 In December 2024, the government published its Action Plan for Clean Power by 2030.<sup>2</sup> In February 2025, the NIC completed its independent review of the electricity distribution system and of the associated regulatory framework.<sup>3</sup> In April 2025, Ofgem approved reforms for electricity connections, transitioning to a 'first ready and needed, first connected' regime<sup>4</sup> to increase the rate of connections and deliver Clean Power 2030. Also in April 2025, we published our policy framework decision on Regional Energy Strategic Plans.<sup>5</sup>
- 1.6 ED3 is central to the successful implementation of all these initiatives and reforms. Our Framework Decision has been significantly influenced by the imperative to ensure the distribution networks enable Clean Power 2030 and net zero carbon emissions by 2050 (2045 in Scotland).
- 1.7 Providing the capacity and resilience to meet our future energy needs will necessitate an increase in network investment and we are mindful of the impact this will have for customer bills in the near-term. While we are confident that in the longer-term this investment will ultimately support a reduction in overall energy costs, we will remain focused on the affordability challenge still facing

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<sup>2</sup> [Clean Power 2030 Action Plan - GOV.UK](#)

<sup>3</sup> [Electricity distribution networks: Creating capacity for the future - NIC](#)

<sup>4</sup> [Decision on Connections Reform Package \(TM04+\) | Ofgem](#)

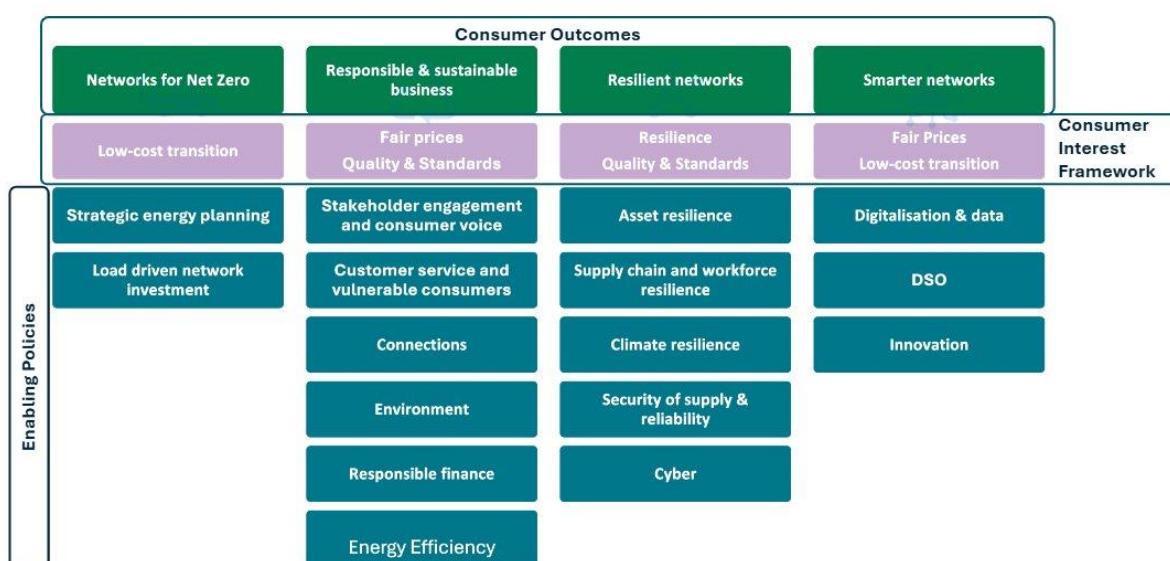
<sup>5</sup> [Regional Energy Strategic Plan policy framework decision | Ofgem](#)

many consumers. In setting the price control we will seek to provide an appropriate balance in our approach, allowing critical network investment to be secured for the long-term but ensuring that companies are only permitted to recover efficient costs so that the impact on bills is minimised.

## ED3 objectives and consumer outcomes

- 1.8 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.
- 1.9 We have structured the ED3 framework so that its various elements contribute to the delivery of four consumer outcomes: networks for net zero, responsible and sustainable business, smarter networks and resilient networks. These are aligned to Ofgem’s Consumer Interest Framework as shown below:

Figure 1: ED3 Consumer Outcomes



- 1.10 We summarise in more detail below the component elements of the framework that support these outcomes. Underpinning these is a change in our historical approach of setting price controls through the RIIO<sup>6</sup> model.

<sup>6</sup> RIIO is Ofgem’s acronym for a particular model of economic regulation for energy network companies applied since 2013. It stands for setting Revenues using Incentives to deliver Innovation and Outputs.

## **The regulatory framework**

- 1.11 We consider that simply rolling over the existing RIIO based framework of outputs and incentives in isolation will be insufficient for the future we need to build to.
- 1.12 Incentivising the delivery of short-term outputs could come at the cost of the investment required to meet the needs of future generations. Instead, we want ED3 to encourage a longer-term, more consistent and holistic approach to network planning. We will design the price control so that we retain a regime that has the stability and predictability critical for attracting investors, but compared to RIIO-ED2, DNOs will be more strongly held to account for the quality and subsequent delivery of their plans.
- 1.13 On wider parts of the framework, which relate to those areas outside of network investment, the framework will be closer in design to the existing RIIO-ED2 framework, with strong incentives to drive performance improvements for consumers.
- 1.14 ED3 will start on the 1 April 2028 and will run for a period of 5 years up to 31 March 2033.

## **Networks for net zero**

- 1.15 The balance of risk is changing and as we accelerate to net zero and our electricity demand increases, we need to ensure that local distribution network capacity stays ahead of the curve. Therefore, the move to a more proactive approach to network investment is needed in ED3. This means that DNOs will need to plan and deliver investment ahead of longer-term network needs.
- 1.16 With the introduction of regional planning, we expect DNOs to prepare a long-term, integrated network development plan out to 2050, using the transitional Regional Energy Strategic Plans (tRESs) from the National Energy System Operator (NESO) as a key input.
- 1.17 DNOs will then optimise their ED3 five-year plans in the context of these long-term plans considering the cost, delivery and innovation opportunities that can help achieve a lower whole-life cost.
- 1.18 DNOs will be held to account on the delivery of their plans using a combination of new output delivery metrics and existing regulatory levers.

## **Responsible and sustainable business**

- 1.19 Strengthening the consumer voice and ensuring accountability of consumer outcomes will continue to be a core feature of ED3. Independent Stakeholder Groups (ISGs) will play an enduring role throughout the price control period, and we believe transparency and consistency is key in both gathering views and demonstrating value. Therefore, we will provide new guidance on research methodologies as well as on how DNOs will report on the consumer value they deliver.
- 1.20 The existing incentives framework has enabled network companies to make significant steps forward in terms of the quality of service they provide to consumers. We want this to continue through ED3 and therefore will retain the Broad Measure of Customer Service (BMCS). However, the landscape is changing and, in line with the NIC recommendations, there are elements of the BMCS that we think should be amended to ensure it captures the range of services provided to customers in the context of changes in our energy requirements.
- 1.21 High growth from new demand and renewable generation customers will increase the number of connections to the network that need to be delivered. Enabling timely connections, in line with consumer expectations, will become increasingly important. Alongside the ED3 price control process, we are undertaking an end-to-end connections review. The outcomes of this review should see strong connection incentives better aligned to customer expectations. These will feed directly into ED3. The details of this will be developed further through the methodology phase.
- 1.22 Ensuring protections are in place through ED3 for the most vulnerable consumers remains as important as ever. As a result, we will continue to incentivise positive outcomes for vulnerable consumers through the customer vulnerability incentive.
- 1.23 The roll-out of energy efficiency measures to households needs to scale-up as we change the way we heat our homes. DNOs have not previously had a direct responsibility for this, but there may be a wider role that DNOs can play that will benefit both consumers and the energy system. We will be working with government and industry to explore this and related matters over the coming months, reflecting any required changes in accountabilities and responsibilities through the methodology phase of ED3.
- 1.24 We are retaining the main components of the RII0-ED2 environmental framework but will strengthen its effectiveness by increasing the rigour of the baseline

expectations for the environmental action plans and drive more standardisation in environmental reporting.

- 1.25 As the electricity system transforms, we will need to assess if our financial framework offers investors a fair and sufficiently attractive return so that the companies can finance the scale of investment required. Equally, it is vital that we consider if DNOs are able to be financially resilient over the short and longer-term. These factors will have an impact on bills and we will need to assess the fairness of how the recovery of costs is shared across current and future consumers.
- 1.26 Our cost of capital methodology will be vital in ensuring DNOs can efficiently raise the scale of capital required to meet ambitious targets. We will assess whether our approach in RIIO-3 to setting cost of capital allowances remains appropriate, alongside further considering our approach to ensuring DNOs are investable and financeable.
- 1.27 In the context of considering investment and financing needs more holistically, we will also assess whether regulatory depreciation and asset lives are suitably calibrated in the context of future increases in capital expenditure. Alongside intergenerational fairness considerations, the speed at which capital is returned to investors will be an important component of ensuring DNO plans are adequately financed. We will undertake a review of current regulatory depreciation policy, ensuring an approach that is appropriately balanced, with robust plans for addressing short and long-term financeability issues while efficiently injecting the overall scale of capital required.

### Smarter networks

- 1.28 To support the long-term planning of the electricity network system, the role of Distribution System Operators (DSOs) will need to evolve. At this stage, we think DSOs will need to focus on driving proactive investment planning with a focus on delivering wider system benefits, for example through optimising network voltage, reducing losses, providing system visibility and accelerating connections.
- 1.29 To support this smarter system, and the DSO, further digitalisation of the energy sector will be key. Enhanced data sharing and digital expertise are crucial, with further work needed to identify priorities and encourage internal expertise. AI presents opportunities but also uncertainties and risks, and we are committed to addressing these through specific mitigations.

- 1.30 Innovation will remain an important aspect of ED3. We will continue with the Strategic Innovation Fund (SIF) and Network Innovation Allowance (NIA) to support disruptive technologies and business models and review wider incentives and obligations that can ensure a stronger emphasis on deployment into core network operations. This will follow the approach proposed for the RIIO-3 price control for electricity and gas transmission operators, and gas distribution networks.

## **Resilient networks**

- 1.31 In addition to building networks to support future electrification, we must ensure that the electricity system is resilient for both consumers today, requiring the maintenance and repair of assets in the ground, but also the future, by ensuring we build a resilient network which can withstand future risks and threats, such as climate change and cyber-attacks. The resilience customers need a expect
- 1.32 The Network Asset Risk Metric (NARM) has worked well to date and for ED3 we will retain and enhance it by expanding the scope of assets under the framework. With the introduction of the long-term network investment plans, it is key that both load and non-load investments are considered together. Where decisions are taken to replace assets under NARM, DNOs will need to demonstrate they have also considered the future expected demand and generation requirements within their decision-making process. This will enable a 'touch the network once' approach, where it is in the long-term interest of consumers.
- 1.33 Future threats, such as from climate change and more disruptive weather events are increasing as evidenced by recent winters and we need to make sure the distribution network has a suitable level of resilience to this built in. The first step is to establish a long-term climate resilience goal, which will be informed by stress testing conducted by DNOs, alongside collaboration with government and NESO to ensure alignment. Through ED3 we expect to fund necessary activities to meet this goal and enhance existing regulatory tools to better integrate climate resilience into investment decisions.
- 1.34 We will continue to retain the Interruptions Incentive Scheme (IIS) in ED3, but will explore whether any amendments are required, including considering whether additional arrangements are needed to minimise disruption and speed up restoration for customers who have previously experienced a high frequency or duration of interrupted supply, including those in more remote areas.
- 1.35 For cyber resilience, as in RIIO-3, we will align the ED3 cyber framework with the Network and Information Systems Regulations 2018 (NIS Regulations), combine

Information Technology and Operational Technology plans into a single cyber resilience plan and streamline Price Control Deliverables (PCDs).

- 1.36 Finally, on supply chain and workforce resilience, long-term, integrated network development plans this should provide greater visibility and certainty to the supply chain and workforce needed.

### **Cost assessment, Real Price Effects and ongoing efficiency**

- 1.37 When preparing any cost assessment framework for a new price control, there is always a balance to be found between adapting to new challenges and opportunities and maintaining sufficient stability and predictability in the modelling approach. While the RIIO-ED2 framework represents a clear starting point, we are considering relevant developments since then, including the evolution of the wider RIIO-3 methodology, development of Regional Energy Strategic Plans (RESs), supply chain constraints and NIC recommendations.
- 1.38 Having assessed our RIIO-3 Future Systems and Network Review (FSNR) position and other developments, we consider that an evolution of the RIIO-ED2 framework to respond to the future challenges of ED3 and simplification where possible is the most appropriate way forward for cost assessment. However, we expect company plans to be more holistic and strategic in meeting longer-term requirements, particularly in relation to load-related expenditure (LRE). We expect that this could potentially create the need to change our cost assessment approaches in this area to respond to this change.
- 1.39 The analysis and use of a combination of historical and forecast expenditure will remain central to our ED3 cost assessment framework. We will consider whether the cost drivers we use and the methods of capturing the relationship between cost and cost drivers remain appropriate. We will consider alternative approaches to cost assessment, particularly of discrete and strategic projects that are not suited to traditional benchmarking approaches, including new modelling approaches and technical assessment. We will review the Real Price Effects (RPE) methodology for ED3. This will focus on the activities delivered by DNOs and the indices available that capture their underlying inputs. Our overall approach to ongoing efficiency will draw on established regulatory precedent from RIIO-3 and sectors subject to economic regulation.

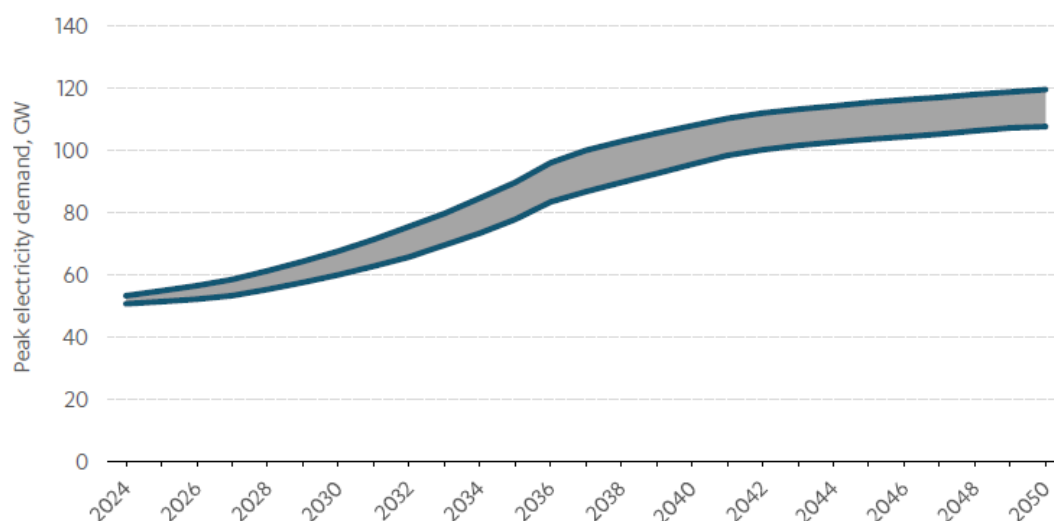
## 2. Strategic context for setting the ED3 price control

### Chapter summary

This chapter sets out the overarching context in which the next electricity distribution price control is being set. It includes information from the NIC report on the electricity distribution sector.

- 2.1 In February, the NIC completed its independent review of the electricity distribution system and of the associated regulatory framework. It has published its own analysis and recommendations, highlighting the vital importance of the distribution network in supporting societal decarbonisation and economic growth.
- 2.2 Many of the observations, insights and conclusions in the NIC report mirror our own view of the challenges ahead for the sector. We provide a full response to the NIC recommendations relevant to Ofgem in Chapter 9. The graph below, developed as part of the NIC's work, shows forecast peak electricity demand accelerating through the 2030s and doubling by 2050, as the economy transitions to low carbon electricity; heating our homes, charging our cars and powering clean industries.

Figure 2: GB Peak Electricity Demand (NIC 2025)<sup>7</sup>



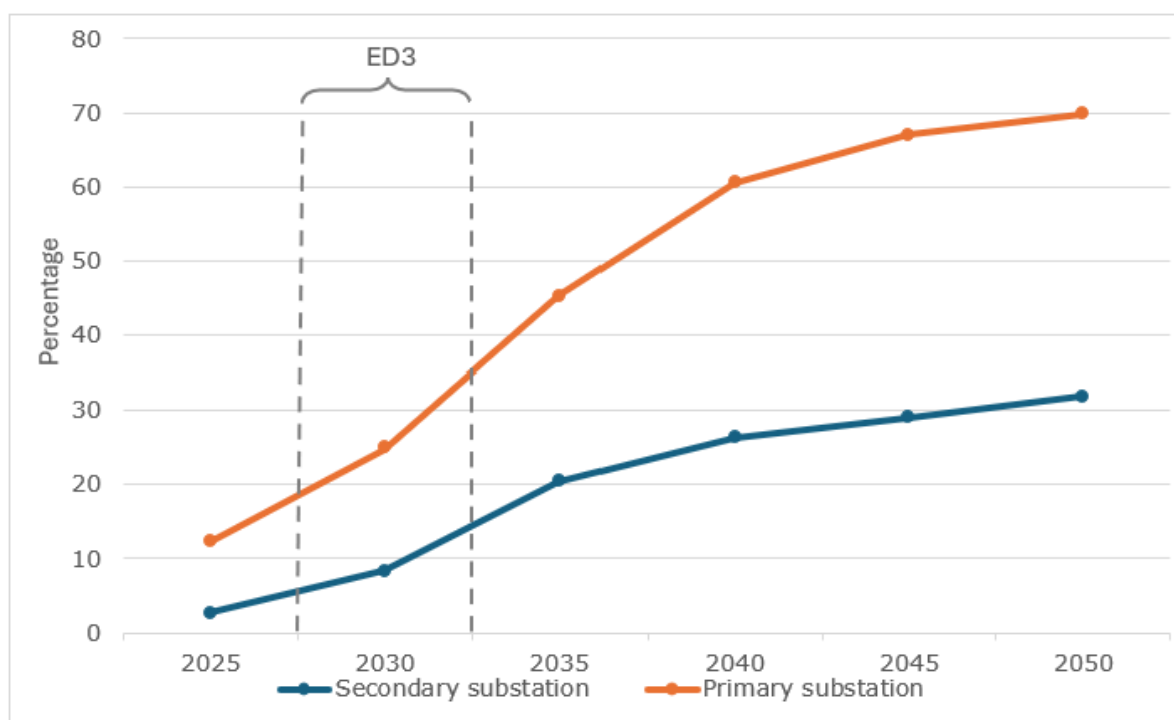
- 2.3 The distribution network has an important role in the deployment of renewable generation. Pathways developed by NESO as part of its Clean Power 2030 report to government, shows a doubling of onshore wind capacity from 14 GW in 2023

<sup>7</sup> Sources: Regen and EA Technology's analysis for the NIC, using Electricity System Operator's Future Energy Scenarios 2023 and the second National Infrastructure Assessment in combination with DNOs' data.

to 27 GW by 2030 and a trebling of solar from 15 GW to 47 GW by 2030, of which 29% of onshore wind and 90% of solar capacities are expected to be connected to the distribution network.<sup>8</sup> Wider connections challenges are also a key driver for change and we published our end-to-end review of connections shortly after our Framework Consultation.<sup>9</sup> Connection reforms continue at pace, and both Clean Power 2030 and the end-to-end review will have impacts on the distribution network and DNO interactions with connecting customers.

- 2.4 While there is headroom capacity in most parts of the distribution network today, there is increasing consensus that we must stay ahead of demand growth, and we consider that the ED3 price control is the point at which it may be necessary to pivot towards a more proactive approach to developing network capacity. The challenge for the sector is to develop this capacity in an efficient way, enabling supply chains to scale while at the same time building a sustainable, skilled workforce for the long-term.

Figure 3: Distribution substations operating at maximum capacity at peak demand in GB<sup>10</sup>



- 2.5 One of the key enablers for this more proactive approach will be the RESPs. The NIC electricity distribution review highlighted the important role that RESPs will

<sup>8</sup> [Clean Power 2030 | National Energy System Operator](#)

<sup>9</sup> [Connections end-to-end review of the regulatory framework | Ofgem](#)

<sup>10</sup> Ofgem calculations from substation headroom data provided by the DNOs (2024 projections).

have in supporting a longer-term and more holistic approach to system planning. We published our RESP policy framework decision in April 2025.<sup>11</sup> This confirmed that we have asked NESO to develop a tRESP output by January 2026 to support the ED3 price control setting process while NESO's RESP function develops to full capability.

- 2.6 Distributed flexibility will play a critical role in a net zero electricity system. NESO's Clean Power 2030 work identified a need for circa 10-12GW demand side flexibility, a 4-5x increase on the circa 2.5GW currently being dispatched, virtually all of which will be connected to the distribution network.
- 2.7 The impacts of more frequent and severe weather are also a key driver for change, given the importance of ensuring networks are resilient to climate change, particularly as we place increasing reliance on the electricity system for the provision of domestic heating and hot water and to meet industrial and transport energy needs.
- 2.8 In the context of the above, in the Framework Consultation we asked for views on the key drivers for change we set out, our overarching objective and the four consumer outcomes we proposed. Our resulting objective and consumer outcomes are set out in the executive summary.

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<sup>11</sup> [Regional Energy Strategic Plan policy framework decision | Ofgem](#)

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### 3. Developing a new regulatory framework for ED3

#### Chapter summary

We have decided to make changes to the overall regulatory framework to enable a more planned and integrated approach to network investment. Network planning will be informed by a range of inputs from both NESO and Ofgem and companies will be required to take a more holistic and long-term approach. The price control period will be five years in length but will be set in the context of long-term integrated network development plans submitted as part of the ED3 Business Plan. We will hold companies to account for the delivery of their Business Plan commitments using project and aggregate level metrics. We will put in place a strong incentive to ensure efficient delivery and develop a Business Plan Incentive (BPI) that focuses on planning and deliverability. We will manage uncertainty during the ED3 period using a range of tools. We will largely retain output and incentive regulation for those parts of the framework that do not involve network investment.

#### Regulatory framework

- 3.1 In the Framework Consultation we set out our rationale for why we thought it was appropriate to consider different overarching regulatory approaches for ED3, given the changing context arising from increasing demand and decentralised generation, supply chain constraints and the availability of the RESPs.
- 3.2 We explored a number of regulatory archetypes, describing these with reference to certain key regulatory features and considered how these might support the overall objective and consumer outcomes. (NB: Appendix 1 of this document sets out our approach to the impact assessment where we have compared the proposed regulatory framework for ED3 with other potential frameworks).
- 3.3 Given the expected increases in demand, we proposed that moving towards a more planned approach to network investment was likely to be beneficial and that we felt it was important to consider different investment drivers more holistically and on a longer-term basis. Alongside this greater reliance on planning, we suggested that it may also be necessary to develop a new output delivery framework to protect against under delivery and to hold companies to account.
- 3.4 We felt that such an approach would support a more proactive and consistent approach to providing future network capacity and would provide greater certainty to key supply chain partners, supporting deliverability in the near and longer-term. We also explored whether moving towards a more ex post model

might deliver benefits, by removing some of the complexity at the start of the price control but we also noted risks with this approach.

- 3.5 We said that adaptability will be a key area for ED3, in the context of a more planned approach to investment and with the first complete RESPs expected to be published shortly before the start of ED3; we sought views on different uncertainty mechanisms.
- 3.6 For those parts of the framework that do not relate to network investment, we said that we did not necessarily see a benefit in moving entirely to an alternative framework archetype, and that we expected outputs and incentives to remain central to the regulation.

### Stakeholder views

- 3.7 The majority of stakeholders supported the concept of a balanced framework based largely on incentive regulation, with a more planned approach to network investment, though several respondents noted the need to clarify the granularity of 'inputs' that might be relevant in the context of electricity distribution network planning.
- 3.8 While stakeholders largely agreed that longer-term planning and anticipatory investment are needed to support the achievement of net zero goals, there were a wide range of views regarding the extent to which inputs should be used to better inform DNO planning. The broad consensus was that DNOs should continue to plan and make decisions about their networks and that inputs should not be too prescriptive, as this could limit opportunities for efficiency and innovation and could compromise the DNO's responsibilities to ensure a resilient network. However, stakeholders also agreed with us that clear and consistent inputs would provide supply chain confidence and minimise delivery risks.
- 3.9 There was broad support for output and incentive-based regulation, with stakeholders noting the progressive nature of the RIIO regulatory model and the benefits that this has delivered for consumers over many years. Several stakeholders made the point that existing regulatory levers (PCDs and incentives) could be used to hold companies to account, even in the context of a more strategically planned system. However, stakeholders also noted that delivery mechanisms should be proportionate to the scale, certainty, specificity of projects and that delivery metrics could focus on a range of outputs eg capacity, timely delivery.

- 3.10 Many stakeholders noted the importance of adaptability in ensuring delivery of any investment plans, particularly at lower voltages where greater uncertainties exist around the exact location and quantum of load growth.
- 3.11 On the role of incentives, many stakeholders said that incentives remain crucial for driving efficiency and ensuring that DNOs deliver long-term outcomes. There was broad consensus on the need for incentives to evolve in line with Ofgem's wider duties and changing consumer outcomes. Specific examples of policy areas where stakeholders felt such evolution was needed included connections, supporting electrification, efficient investment, timely delivery, system flexibility, customer service and vulnerability. One stakeholder was keen for Ofgem to explore the use of zero-sum incentives, meaning that the cost of rewards to some companies is offset by the penalties levied against others.
- 3.12 Some stakeholders suggested that it would be important for Ofgem to ensure that incentives focus on incentivising delivery efficiency in ED3 rather than incentivising deferral of network investments into future price controls.
- 3.13 On the role of reopeners, there was generally broad agreement around the need for clear mechanisms that enable elements of the price control to be reviewed if required. However, there was also strong support for a reduction in the number of reopeners and for a more agile and timely process. Some stakeholders felt that Ofgem should reintroduce a clear assessment period, and commit to publishing decisions within that period, to reduce delays.
- 3.14 There was some support for limited ex post regulation, for example to manage cost uncertainty arising from supply chain pressures and skilled labour shortages, but generally the consensus from stakeholders was that this should be limited to specific circumstances and only where the needs case is clear. Concerns were raised by several stakeholders who responded to this question around risks to both companies and consumers from moving towards an ex post regulatory regime.

### Our decision

- 3.15 For network investments, as discussed further in the networks for net zero chapter (Chapter 4), the proposal is for a longer-term and more planned approach, with a new requirement for integrated load / non-load network development plans, using the tRESP inputs (aggregate pathways and specific strategic investments) from NESO, alongside climate resilience goals and asset health data.

- 3.16 DNOs will then optimise their ED3 five-year plans in the context of optimal cost / risk profiles through to 2050, to achieve a lower whole-life cost in the long-term.
- 3.17 We will hold companies to account for the delivery of their resulting ED3 plans at both the project and aggregate level, with mechanisms proportionate to the size of project or programme.
- 3.18 We propose retaining a strong efficiency incentive but where appropriate we will focus this on unit/project cost efficiency, with adjustment mechanisms for lower delivery, rather than pure cost incentives on the total quantum of expenditure as in RIIO-ED2. In this way the proposed ED3 framework will promote delivery of the agreed plan, rather than providing incentives to find opportunities to improve productive efficiency by 'doing less'.
- 3.19 We have decided to retain a largely ex ante approach to cost assessment and incentives to promote cost efficiency rather than moving to a 'pass through' of costs.
- 3.20 Where necessary will use a range of uncertainty mechanisms, including reopeners, to manage uncertainties in-period and will further develop the detail in this area for our Sector Specific Methodology Consultation (SSMC).
- 3.21 We note the NIC recommendations in respect of simplifying the regulatory framework (see Chapter 9). We intend to fund the majority of network investment ex ante, however, where there is significant uncertainty at the ex ante cost forecast, we will consider further whether some form of ex post assessment might be beneficial; though we expect any such approach would likely be limited to capital investments. By setting the majority of the network investment 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 will therefore consider whether the rationalisation of reopeners may be possible and whether volume drivers are necessary, at the next stage.
- 3.22 Alongside this we will enhance our monitoring arrangements and will hold companies to account for the delivery of their investment plans through a combination of new output delivery metrics and existing regulatory levers to protect against under-delivery of network investment.
- 3.23 More widely, and outside of those areas of the price control that relate to network investment, the framework will be closer in design to the existing RIIO-ED2 framework. This will include a strong incentive package focused on delivering key

consumer outcomes, alongside greater accountability for delivering against plans. We are minded to retain key RIIO-ED2 incentives in ED3, including:

- Business Plan Incentive (BPI) – to 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;
- Output Delivery Incentives (ODIs) - new ODIs will be considered with connections a key area for further consideration; and
- Efficiency incentive (Totex Incentive Mechanism (TIM)) - we will review the TIM and ensure that it works in conjunction with other incentives, particularly those relating to the delivery of network investment and outputs.

### Rationale for our decision

- 3.24 We agree with the NIC and stakeholders that simply rolling over the existing RIIO-ED2 output and incentive framework will be insufficient for the future we are building to. Incentives alone, intended to drive efficiencies in expenditure, could instead potentially encourage short-term decision making and result in underinvestment.
- 3.25 The move to a strategically planned energy system, with the establishment of NESO and availability of RESPs provides more certainty about how much and where new capacity needs to be provided. This supports a greater reliance on network planning and enables a more proactive approach to network investment, alongside a new output delivery framework.
- 3.26 Given the availability of independent underlying assumptions (NESO tRESP) for network investment and the need to act more proactively, we think that the risks of moving to more of an ex post regime would not justify the benefits. The benefits of a more flexible model above our proposed approach would be small in the ED3 period and reducing the use of cost benchmarking when setting allowances would be likely to result in higher costs to consumers.
- 3.27 The other reason to move towards a model that uses more ex post adjustments for actual investment would be to address the risk that DNOs have the incentive to deliver less investment than planned during the ED3 period. We have concluded that this risk will be effectively addressed by a combination of existing mechanisms (PCDs) and new incentives to deliver against agreed business plan targets.

- 3.28 Providing funding largely on an ex ante basis supplemented by uncertainty mechanisms or a targeted pass-through of costs that adjust the price control to reflect changes in assumptions creates investment certainty, would allow networks and their supply chains to invest to facilitate the energy transition, and reduce the administrative burden and delays caused by excessive reliance on re-openers or ex post reviews.
- 3.29 Other aspects of the Framework (generally relating to opex and non-network capex) will build upon the strengths of the RIIO model, to drive further significant improvements in efficiency, innovation and service quality, aligned with the consumer outcomes that we have described.
- 3.30 Appendix 1 sets out our approach to the impact assessment where we have compared the proposed regulatory framework for ED3 with other potential frameworks.

### Timeframe for price control

- 3.31 In the Framework Consultation we said that we would consider whether there might be reasons to move away from the current five-year duration of the price control, for example due to the three-yearly cycle of the enduring RESP outputs. We asked stakeholders whether a 5-year price control was the right duration.

### Stakeholder views

- 3.32 A range of stakeholder views were presented in consultation responses, with a small majority supporting retaining the five-year duration overall as a good balance between certainty and periodically reassessing the suitability of incentives and the outputs required from the networks.
- 3.33 Many responses said that it is more important that decisions for the ED3 price control are made in the context of the long-term objective to deliver the net zero network for 2050, than the period of the price control itself. Some consider the move to long-term planning in ED3 should help to smooth out the current boom-and-bust investment profile, while others suggested that further thought needs to be given to how to provide greater certainty of funding for reinforcements that extend beyond the 5-year price control.
- 3.34 Several responses highlighted that there may be opportunities to align with the 3-year RESP cycle by extending the price control to six years.

### Our decision

- 3.35 ED3 will be a five-year period (2028-33) underpinned by long-term integrated network development plans, providing visibility and continuity across multiple price control periods.

### Rationale for our decision

- 3.36 We think that a five-year price control period, set in the context of a long-term integrated network development plans, provides the right balance between certainty and adaptability.
- 3.37 Aligning ED3 with the other sectors (gas and electricity transmission and gas distribution) would mean either reducing the price control to 3 years or extending it to 8 years. Shortening the price control would not be practical from a process perspective and would likely reduce investor confidence; extending to 8 years is considered too long given the many changes that are happening in the sector. Such a move would likely require new approaches to uncertainty and cost adjustment mechanisms which would be incompatible with the desire to simplify the price control.
- 3.38 Furthermore, the publication of the second full RESP at the end of 2030 will be well timed in the context of preparations for the next electricity distribution price control, where based on previous timescales, we would expect DNO business plans to be submitted at the end of 2031, in readiness for final determinations at the end of 2032 and a 1 April 2033 start date.
- 3.39 We will consider the timescales for the next electricity distribution price control at the appropriate time, including considering the benefits of alignment with other sectors and the strategic planning cycle.

## **Competition**

- 3.40 In the Framework Consultation, we said that we were open to exploring whether there should be a role for greater competition in the sector, and in particular, whether we should replicate the approach to early and late competition taken in electricity transmission.

### Stakeholder views

- 3.41 We received 10 responses from a range of stakeholders. The detailed stakeholder views highlight varied perspectives on competition models within the electricity distribution sector.

- 3.42 Opinions on early competition are mixed, with some stakeholders opposing further consideration due to the lack of demonstrable consumer benefits and significant differences between projects at distribution and transmission. Others support early competition models for their potential to drive innovation and improved customer outcomes. Late competition models are also favoured by some, focusing on outputs and incentives to drive efficiency and high performance.
- 3.43 Stakeholders emphasised the need for effective competition frameworks that deliver consumer benefits and recognise the differences between transmission and distribution. There was support for bespoke reviews and designs tailored to distribution, as well as encouraging third-party solutions to optimise delivery. The varied opinions reflect no clear consensus on the suitability of early versus late competition models, highlighting the importance of innovation and flexibility in network planning.

### Our decision

- 3.44 We have decided not to introduce early or late competition models for ED3. At this time, we think the introduction of a new, wider competition model would introduce disproportionate complexities and limited benefits relative to its potential cost and regulatory burden.

### Rationale for our decision

- 3.45 Competition already exists for elements of new connections, and we believe existing arrangements are effective for all parties (DNOs, Independent DNOs, Independent Connection Providers and others) to design, build and operate in this area. We believe further regulatory intervention would risk over-complicating what is currently a functioning and maturing part of the market.
- 3.46 Electricity distribution projects tend to be lower in value and higher in volume than electricity transmission projects. Unlike transmission, where some large-scale, high-value projects can be defined separately, electricity distribution projects will often be more integrated. Therefore, we think the distribution sector's structure offers limited scope for cost savings through broad competition models.
- 3.47 Given ED3's focus on facilitating net zero, supporting system flexibility, and enabling timely network build, we believe the distribution network requires coordinated investment, long-term planning, and rapid delivery. Introducing a broader competition model at this stage could undermine holistic network development, lead to longer procurement timelines, and result in higher costs.

## 4. Networks for net zero

### Chapter summary

This chapter sets out our decisions for how the DNOs should deliver investment in new capacity to prepare the electricity distribution networks for net zero. NESO's Regional Energy Strategic Plans will be a key input to the DNOs' network planning processes and set the direction and pace of investment needed in ED3 and beyond. We will provide upfront funding for investments in the ED3 period that are needed to enable and sustain the delivery of each DNO's long-term integrated network development plan. We will hold the DNOs to account for the planned load related investment through output delivery metrics.

### Strategic planning and proactive investment in ED3

- 4.1 As set out in the previous chapter, the ED3 period will be critical for delivering the network infrastructure required for achieving a net zero economy by 2050. There is currently not a widespread distribution capacity 'problem' today, but ED3 will be a critical period to enable the appropriate network interventions to stay ahead of any constraint problem arising. Preparing the electricity distribution networks for this increased load will require significant investment to expand the network.
- 4.2 In the Framework Consultation we set out how DNOs are doing in terms of delivering against their load-related expenditure packages in RIIO-ED2. When reviewing this we set out that in our view, the early picture presented from the current price control is that DNOs are falling behind in delivering the network upgrades expected for RIIO-ED2.
- 4.3 Given the scale of the investment needed to prepare the electricity distribution networks for net zero we set out some of the challenges and opportunities that we thought were most pertinent to effective and efficient delivery, including supply chain and workforce, future energy supply and demand and the use of network flexibility.
- 4.4 Based on this we consulted on whether the balance of risks for consumers around network investment is changing as we get more certainty of widespread electrification of heating and transport in future, and supply chain and workforce pressures increase. Specifically, we considered if the downsides for consumers from underinvestment or delayed investment was likely to be greater than those associated with investing ahead of need.

- 4.5 We discussed the potential benefits and risks of proactive investment in electricity distribution networks and whether proactive investment in ED3 could help contribute to the efficient delivery of networks for net zero.
- 4.6 With the introduction of strategic planning, we considered that the RESPs provide an opportunity to help manage the challenges by setting the strategic direction for proactive network investment to ensure it is ready for users when needed.
- 4.7 In our view, the RESPs independent, cross-vector, stakeholder-informed view of local priorities for energy supply and demand will provide higher confidence to plan and deliver electricity distribution networks for long-term needs.
- 4.8 In the consultation, we said we expect NESO to produce a tRESP for early 2026 to input into DNOs' business planning for ED3. We consider that the key tRESP outputs are:
- Longer-term region-specific, spatial pathway of energy supply and demand;
  - Consistent methods and assumptions to derive network needs; and
  - Coordination of local stakeholder engagement and cross-vector input.
- 4.9 We also said that we need to further consider how to adapt the ED3 network investment plans for the enduring RESP due in 2027.

### Stakeholder views

- 4.10 Stakeholders agreed that the balance of risks is changing, and it is appropriate to adopt a more proactive stance in ED3 to scale up investment steadily in line with policy drivers for demand growth. However, several stakeholders warned against generalising this to the entire distribution network. They say that prescribing specific location-based investment on the lower voltage network ahead of more certainty of demand growth (via real-time data and forecasts) risks misdirecting valuable resources to the wrong place which is unnecessary given the shorter lead times and lower deliverability risks. Others called for developing clear principles to ensure that proactive investment in the network is strategic and delivers long-term value for money for consumers.
- 4.11 On supply chain, all stakeholders agreed that global supply chain and workforce pressures are already contributing to higher costs and longer lead times, particularly at higher voltages. Most respondents expect the situation to deteriorate without specific measures to increase upfront certainty on investment pipeline, support long-term partnerships, support earlier procurement/stock holding, skills development investment etc. Several responses said that

Distribution System Operator (DSO) procured flexibility should be recognised as a valuable hedge against longer lead times for equipment and skills shortages.

- 4.12 Responses broadly agreed that a steady investment pipeline and funding certainty will help avoid boom-bust cycles and potentially increase the UK's attractiveness to the global supply chain. However, several responses say front-loading investment needs careful consideration to ensure overall value for money for consumers is achieved.
- 4.13 Responses on the benefits and risks of deferring investment generally agreed that investment deferral risks higher costs in future, exacerbating deliverability risks, missed growth and decarbonisation opportunities, missed synergies/efficiencies etc. Several stakeholders acknowledged the benefits of non-network solutions to help prioritise and optimise delivery as well as reducing short-term constraints and costs. Several responses also supported the continued use of DNO-procured flex to help manage a broader set of network issues/needs efficiently.
- 4.14 In relation to the tRESP, respondents generally supported the concept, particularly if it helps align network investment with local authority spatial and decarbonisation plans, drives consistency in planning assumptions and streamlines regulatory approvals of ED3 investment plans. However, some responses called for further clarity on the granularity of the specific outputs, methodology, stakeholder engagement coordination and the governing authority.
- 4.15 Some stakeholders had concerns about the tRESP not being ready in time and said we should be cautious about over relying on the tRESP to determine large sums of network investment particularly without clarity on content and methodology.
- 4.16 Most responses also agreed that further consideration is needed on how to manage uncertainties specific to network investment given the enduring RESP is expected to be published at the start of ED3. They say it is important that adaptive mechanisms are agile and not overly complex so that DNOs can adjust to new inputs without disrupting committed delivery programmes.

### Our decision

- 4.17 In respect of network investment in ED3, we have decided to move to a more proactive stance for load related investments. This means that the DNOs will need to plan and deliver investments ahead of longer-term network needs.
- 4.18 The tRESP will have a significant role in setting the strategic direction and pace for proactive network investment in ED3. The regional tRESPs will be a key input

to the DNOs' network planning for identifying the efficient long-term network development plan to support the net zero regional energy pathways.

4.19 We have also decided that the scope of proactive load investment in ED3 will include:

- Specific strategic investment projects at extra high voltage and primary network that address strategic investment needs identified in the tRESP;
- programmatic investment to add new capacity on the primary and secondary networks that the DNOs identify using their local network knowledge and network planning processes to prepare the distribution network for the long-term tRESP pathways; and
- programmatic investments to proactively upgrade line services eg unlooping of service cables.

4.20 In the ED3 methodology we will consider options for managing the transition to the enduring RESP and to adapt ED3 investment plans in a seamless way.

### Rationale for our decision

4.21 We think that the balance of risk will change during the high demand growth phase of the net zero transition and that we need to ensure that network capacity stays ahead of the curve. We welcome the broad support among stakeholders for a proactive stance in network investment in ED3. We consider that proactive investment in network capacity is necessary during ED3 to ensure that local networks are ready for the net zero transition, support economic growth and continue to provide high levels of resilience for customers. This will ensure the distribution network enables and supports the delivery of our decarbonisation and growth goals.

4.22 The move to proactive investment is appropriate because electricity demand will inevitably increase as we move towards greater electrification of heating and transport. This reduces the risk of stranded investment. At the same time, as supply chain and workforce challenges are intensifying, waiting for demand to materialise before mobilising network reinforcement risks investing too late, creating bottlenecks and delays.

4.23 We think the pace of proactive investment for load reinforcement should align with the strategic direction set by the tRESP/RESP as these will provide more certainty and consensus on the long-term regional network requirements in the future. This will also give more foresight to supply chains on the investment

pipeline and create greater certainty to invest in new production capacity and skills development to help alleviate growing pressures in these areas.

- 4.24 Since the ED3 Framework Consultation was published in November 2024, significant progress has been made in firming up the tRESP scope and timeline. In February 2025, NESO confirmed that each region’s transitional plan will include a view of the conditions and priorities, informed by stakeholders, to capture the drivers of network investment.<sup>12</sup> NESO also confirmed that the tRESPs will provide both short- and long-term pathways for future supply and demand, mapped to grid supply points in a RESP region and the licence area of the DNOs. In addition, NESO will provide guidance for how DNOs should assess network impact of the pathways on electricity load to ensure these are treated consistently. NESO intends to consult on the draft tRESP pathways in September 2025 and to publish the final tRESP in January 2026.
- 4.25 We note that this proactive investment stance aligns with the NIC recommendations in their recent review of the electricity distribution sector. The NIC considered the balance of risk to consumers of a more proactive stance to network investment compared with the status quo and concluded that the risk of getting behind now outweighs the risk of underutilisation or asset stranding. The NIC also made several recommendations for the development of RESPs to align stakeholders around a clear trajectory for the future needs of the network to enable and de-risk proactive investment.
- 4.26 With certainty on level of future network investment (and funding), licensees can focus on optimising across their entire network investment programme and to manage risks and deliver efficiently.

### **Regulatory arrangements for proactive investment**

- 4.27 In our Framework Consultation we explained our initial thinking that adopting a more proactive approach to network investment would likely require several changes in the regulatory arrangements that relate to load related network investment. For example, we said that while DNOs would continue to lead detailed network planning we expect additional inputs would inform ED3 investment plans including NESO's tRESP/RESP strategic planning outputs, as well as additional regulatory guardrails to drive greater consistency in optioneering and the basis for investment decision-making. We suggested this could include

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<sup>12</sup> [NESO response to open letter regarding the scope of the transitional RESP](#)

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principle-based guidance such as sizing interventions or elements of works to optimise lifetime value, guardrails on the role of different network solutions during ED3, as well as an option evaluation methodology that considers the wider system costs and benefits of electricity distribution network interventions.

- 4.28 We also said that a proactive investment approach would likely require a higher level of accountability for the delivery of agreed plans than in previous price controls. We discussed a potential increased role for output delivery metrics to monitor and hold companies to account in the delivery of network investment programmes.

### Stakeholder views

- 4.29 We received 20 responses that all supported the principle of assessing both load and non-load options to meet long-term network needs based on whole-life societal and environmental factors, and financial costs. However, some stakeholders acknowledged there are challenges in whole-life cost benefit analysis due to uncertainties about future demand and network requirements when the planning horizon is long-term. Some stakeholders suggested a least-regrets analysis approach to determine the extent of future proofing incorporated in an investment, and that a standardised methodology is established for DNOs' investment optioneering in ED3.
- 4.30 We received 22 responses on the extent to which the price control should be more directive on specific strategic and anticipatory investments. Some support a more directive approach on specific investments for net zero identified in the tRESP/RESP and in some limited areas eg more standardisation in digitalisation approaches; others support DNOs retaining the latitude to decide trade-offs under totex and to course-correct if needed to achieve the consumer outcomes. However, on the latter, some stakeholders call for a financial delivery incentive that is calibrated correctly and is stable over subsequent price controls to ensure DNOs do not fall behind in network investment needed to support net zero.
- 4.31 We received 14 responses relating to our characterisation of strategic and anticipatory investment and their different regulatory drivers. Some stakeholders broadly agreed with the characterisation; while others said it was unclear or unnecessary. Some agreed with applying regulatory controls such as project-level cost assessment, bespoke efficiency sharing and delivery assessment for specific discrete investments if they meet a high threshold (>£25m). Others disagreed with regulatory controls if it brings inflexibility when pace and agility are needed to manage a dynamic load programme, and if it risks weakening efficiency

incentives. Several stakeholders call for guidance on how far ahead of need DNOs should consider investments, and the degree of certainty that is required so all parties have the same understanding. Some stakeholders also consider a set of 'guardrails' with an expanded cost benefit approach is a better option than a more prescriptive approach.

- 4.32 The 19 stakeholders that responded to our question on guidance and guardrails also had diverse views. Some responses support more guidance, while others emphasize that being overly prescriptive would be unhelpful and potentially conflict DNOs statutory duties to maintain an efficient, coordinated and economical system of electricity distribution. Several stakeholders say that guardrails are unnecessary if the price control focuses on incentivising the required outcomes, while others said that guardrails along with an expanded cost benefit methodology, could be a positive addition if these are set at a high level and not prescriptive to the types of network solutions for a specific set of circumstances. A DNO thought that guardrails or triggers for reviewing the use of a volume driver could be useful, potentially informed by the RESP outputs to validate the needs case, to ease the regulatory burden.
- 4.33 Fifteen stakeholders responded on bringing network capex investment together, irrespective of driver. Some say it is unnecessary to bring all network capex investment together within the framework as DNOs' current planning and capital delivery programmes already consider multiple investment drivers and long-term needs; others suggest that a unified approach would incentivise companies to exploit synergies across the different cost categories. Several responses expect it would be methodologically complex to develop a combined capex mechanism and monitor delivery. However, some consider that a common approach might help to identify the full picture of consumer value from all network investment decisions, potentially avoiding the creation of duplicative incentives.

### Our decision

- 4.34 We have decided that DNOs should embed a strategic approach to network investment. We envisage this will be best achieved by developing and submitting a long-term holistic view of all network investment to deliver on the key consumer outcomes out to 2050, for each licence area, with their business plans.
- 4.35 We have decided to provide detailed guidance during the SSMC phase on our expectations for these long-term integrated network development plans and how ED3 plans should be developed in the context of these.

- 4.36 We have decided to support the delivery of integrated network development plans, by providing upfront funding for investments in the ED3 period that are needed to enable and sustain the delivery of the long-term integrated plan.
- 4.37 We have also decided to introduce robust delivery assurance arrangements to hold the DNOs to account for the delivery of planned load related investment. We will consider a range of options at SSMC for this, including using a range of output delivery metrics, PCDs and incentive mechanisms.

### Rationale for our decision

- 4.38 The requirement on DNOs to develop a long-term integrated network development plan for each licence area will provide greater consistency in the approach to developing distribution networks over the next 20-30 years (to 2050) for Clean Power 2030 targets, net zero demand and generation pathways, asset health, and climate resilience.
- 4.39 It is important that these plans are holistic and integrate the range of network investment drivers, covering load and non-load investments, including climate resilience because:
- it will enable synergies to be identified between investment drivers. Each time a DNO makes an investment, there is an opportunity to deliver multiple long-term benefits across different outcomes, including capacity additions, asset health, environment and resilience;
  - it will ensure all network investment activities (load and non-load programmes, including climate resilience) are aligned with the net zero pathways; and
  - it will also ensure better coordination, which in turn will assist with identifying innovation opportunities and efficient delivery.
- 4.40 We also think it is important that DNOs prepare a longer-term, investment plan to ensure that:
- decisions are taken in the long-term interests of consumers;
  - there is a robust view of the investment needed in ED3 and successive price controls for delivery of the long-term plan. This will help manage the transition between ED3 and the next price control enabling smooth, inter-price control transitions;
  - all interventions are future proofed for RESP pathways and climate resilience, irrespective of the original investment driver, enabling a “touch the network once” approach, where it is in the long-term interest of consumers; and

- long-term delivery programmes of network reinforcement developed in the context of long-term (multi-price control) objectives, will provide the supply chain with greater visibility.

### *Guidance*

- 4.41 It will be necessary to provide guidance on our expectations for these integrated network development plans to ensure DNO investment plans are developed and submitted on a consistent basis.
- 4.42 As part of SSMC, we plan to draft regulatory guidance and business plan requirements to ensure consistency in the planning inputs, assumptions and DNOs' investment decision-making methodologies, that form the basis of the plan development.
- 4.43 It is important that the DNOs approach to developing long-term integrated network plan takes place on a level playing field to ensure that we can assess the relative quality of plans as part of the BPI and also use these plans with confidence for other areas of the price control setting such as cost benchmarking.
- 4.44 At a minimum, the guidance will likely set out how we expect the DNOs to use the tRESP outputs, sensitivity analysis, minimum levels of headroom capacity, maximum asset utilisation, and how ED3 plans should be developed in the context of these long-term strategies.
- 4.45 DNO investment plans covering the ED3 period will need to set out those activities that are necessary to ensure the delivery of the long-term integrated network development plan.
- 4.46 We also consider that the cost benefit methodology used in the price control by the DNOs to evaluate different network options such as the Common Evaluation Methodology should be updated to capture consumers' long-term interests.
- 4.47 Where possible we will adopt principles-based guidance, leaving the DNOs to do what they do best ie making engineering judgements about which interventions are appropriate, given the complexity of the system and their wider licence obligations to provide an efficient resilient network and meet industry engineering standards.
- 4.48 We also intend to communicate our consideration of new or amended standards, alongside core price control components, where these may support the right investment for consumers in the long-term, for example through new or expanded climate resilience and/or Security of Supply Standards. Details will be developed at the methodology stage.

*Accountability for delivering outputs*

- 4.49 We will increase accountability for the delivery of outputs and outcomes linked to the delivery of network investments, using a combination of new output delivery metrics, consumer value reports and existing regulatory levers (including PCDs and incentives) to protect against under-delivery.
- 4.50 In comparison to RIIO-ED2, we have decided to increase the importance of delivering investments in line with the plans proposed by the DNOs, after any adjustments we make during the Business Plan review process. This will result in a degree of reduction in the flexibility given to DNOs to adapt their plans in period.
- 4.51 In line with the NIC recommendations, we have concluded that the benefits from greater certainty around outcome delivery, including the confidence in supply chain planning, will outweigh any costs from reduced adaptability during the period.
- 4.52 We will develop our thinking around the scope and definition of the mechanisms that we will use to ensure that the DNOs are held to account for effective delivery of plan outcomes in the next stage and consult on these at SSMC. For example, this could include a new annual measure of net capacity added to the network, aggregated for primary and secondary networks within each Grid Supply Point region (aligned to tRESP).
- 4.53 In addition to greater accountability for network investment, we are considering introducing new incentives to ensure delivery is at the level expected both in aggregate and also during the different phases of the price control period.
- 4.54 As noted above, we will hold companies to account for the delivery of their investment plans through a combination of new output delivery metrics and existing regulatory levers to protect against under delivery of network investment.

## **5. Responsible and sustainable business**

### **Chapter summary**

In this chapter we set out how important transparency and ongoing challenge is to ensure DNO accountability. We will provide guidance on research methodologies for the network companies and require DNOs to appoint ISGs to challenge them in the development of business plans and on an enduring basis.

We will also ensure that companies continue to be incentivised to provide good customer service through the retention of the BMCS and the Customer Vulnerability Incentive (CVI). However, we do expect the need to make changes to better reflect consumer needs, particularly in relation to connections. Due to an expected rise in demand for electricity, we also expect companies to take on a bigger role in coordinating energy efficiency measures. We also confirm the environmental framework is being retained for ED3.

- 5.1 As providers of essential infrastructure, and their critical role in supporting the transition to an electrified economy and net zero, it is imperative that DNOs maintain organisational legitimacy, credibility and trust.
- 5.2 Transparency in reporting, enhanced stakeholder engagement, consumer protection, addressing wider social and environmental challenges and responsible financing all ensure DNOs are held to account and build trust with consumers. It is imperative that this is continued through the next price control.

### **Stakeholders/consumers**

#### **Accountability for consumer outcomes**

- 5.3 In our consultation, we set out our intention to frame the price control using the Consumer Interests Framework (CIF) and the four consumer outcomes we've set for ED3 (networks for net zero, responsible and sustainable businesses, resilient networks and smarter networks). We said we want these consumer outcomes to be central to the development of ED3 and that we want to ensure that DNOs are focussed and held to account on delivering them.
- 5.4 We asked stakeholders how we can better strengthen the accountability for consumer outcomes and what their views were on DNO company reporting and the overall transparency of performance and compliance.

### Stakeholder views

- 5.5 Overall, respondents strongly agreed with efforts to strengthen accountability and transparency but said there should be more focus on mechanisms that encourage DNOs to better understand the impact of their investment and services on different consumers. The network company responses highlighted the strengths of current reporting structures, the need to include metrics traditionally not reported on and the need for ensuring reporting is made more accessible, is consistent and adds value. They also said that the current reporting structure makes it challenging to draw comparisons across DNOs. Some responses believed this can be achieved through reporting mechanisms already established in RIIO-ED2 and therefore the focus in ED3 should be on providing consistency, transparency and accessibility in the existing reports.
- 5.6 The response from National Grid Electricity Distribution (NGED) proposed meeting the challenge of including less-tangible values through introducing a Consumer Value Framework (CVF). This framework was based on our CIF and introduced several value constructs and criteria for success. The NGED CVF sought to value consumer outcomes such as decarbonisation, socio-economic welfare, social return on investment and resilience in economic terms, which NGED said could provide a basis for comparative analysis between DNOs as well as providing a model for utilising these metrics alongside Return on Regulatory Equity (RoRE).
- 5.7 Follow up conversations with stakeholders highlighted a very clear message that the focus should be on getting the basics right on reporting, publish annual performance reports consistently and understand the audience for reporting. One stakeholder said that to build trust in the sector, it is important that consumers understand the outputs being delivered and that this value is being captured and demonstrated in a meaningful way. Therefore, the sector as a whole should move towards a framework for capturing less-tangible metrics, while aiming to value these metrics in economic terms and help companies to demonstrate the wider value they are delivering.
- 5.8 Overall, the responses highlighted the need for any additional reporting to be relevant and add value, and any new tools should only be developed where existing processes can't be developed or adapted.

### Our decision

- 5.9 For ED3, we will build on the work and processes developed under RIIO-ED2, particularly in relation to the CIF. For reporting, we think that traditional metrics could be presented in a more consistent and comparable way, and that they are

made accessible for a wider range of stakeholders. In time, we consider there may be merit in introducing new metrics for the less tangible outcomes, which will enable us to fully capture the wider value that is being delivered. These may include elements of alternative methods of articulating benefits delivered, such as the CVF proposed by NGED.

- 5.10 To streamline reporting, as set out above, we intend to provide new guidance on how companies should publicly report on consumer value.

### Rationale for our decision

- 5.11 We note the broad support for increased accountability and recognise the sector-wide emphasis on delivering wider consumer outcomes. We believe greater transparency is key to enable and build trust in the sector. It is therefore important that reporting is consistent, comparable and sufficiently detailed to support decision-making and provide value to consumers.
- 5.12 We recognise the need to ensure that companies demonstrate value for money against the key objectives and consumer outcomes of the ED3 framework and track the delivery of specific Business Plan commitments. A CVF, such as the one suggested by NGED, may seek to achieve this but we note the message from stakeholders to first consider how we will build on existing reporting mechanisms and provide more transparency through publishing existing reports. By first getting the fundamentals right, we will be able to get a better understanding of where there is additional value and where we can add improvements. The specifics of what this would look like will be developed through the methodology phase.
- 5.13 Additionally, the CIF seeks to ensure fundamental outcomes are implemented in business operations and through our regulatory functions. A clear link between the objectives and outcomes for the ED3 period and the CIF will ensure that we make decisions in the interests of consumers, when considering the distribution of electricity and what is required of the companies for the period of the price control.
- 5.14 Following the recommendations from the NIC, where they said price controls should be simplified and take into account a wider range of objectives (including wider consumer value), we think that by building on existing reporting mechanisms and providing more transparency through the publication of existing reports we can strengthen accountability for consumer outcomes while not complicating the landscape further. The recommendations set out by the NIC is an important step towards delivering wider consumer outcomes.

## **Enhanced stakeholder engagement**

- 5.15 In our Framework Consultation, we proposed to adopt the RIIO-3 position set out in the RIIO-3 Business Plan Guidance and mandate the appointment of ISGs in ED3.<sup>13</sup> The ISGs should provide challenge and scrutiny to network companies, both in developing Business Plans, but also on an enduring basis in delivering these plans.
- 5.16 We also noted that the development of the Regional Energy Strategic Plans (RESs) provides a further opportunity for local engagement by the DNOs, and that this would be a further opportunity for placed-based engagement.
- 5.17 We asked stakeholders whether they thought ISGs alone were sufficient to ensure high quality and effective consumer and stakeholder engagement in ED3 and whether there were any alternative or complementary approaches we should consider.

### Stakeholder views

- 5.18 The majority of stakeholders supported the adoption of ISGs under ED3, and stated their value is in challenging the quality of engagement. Most respondents suggested guidance should be provided on the ISG role, composition, expectations and scope. Some respondents suggested the composition should be more prescriptive to reflect their role in providing challenge to the companies, eg expertise around stakeholder engagement, research and sustainability.
- 5.19 Due to customer needs evolving over time, there was a call for ISGs to be representative and proportional, and therefore an adaptive approach to membership was considered essential. It was suggested further guidance was needed around good engagement strategies and common service standards to avoid regional differences in engagement.
- 5.20 Several stakeholders asked us to clarify whether ISGs were intended to replace previous Customer Engagement Groups (CEGs) or operate alongside. Some responses called for a review of CEGs.
- 5.21 In follow-up discussions, the majority of stakeholders stated the ISGs are important in ensuring accountability for consumer outcomes and prescriptive guidance on composition could help to provide meaningful challenge. Other stakeholders believed the current guidance is sufficient in setting out the role and

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<sup>13</sup> Chapter 2 of the RIIO-3 Business Plan Guidance: [RIIO-3 Business Plan Guidance](#)

purpose of the ISGs, but stated guidance and structure for reporting, particularly in reviewing and responding to Business Plans would be beneficial.

### Our decision

- 5.22 We will adopt the same position for ED3 as we have in the other sectors, with a requirement for DNOs to appoint ISGs for ED3. ISGs will be the main stakeholder engagement forum for development of Business Plans and on an enduring basis throughout the price control period and will replace the role performed by CEGs.
- 5.23 As the Sector Specific Methodology is developed, we will set out further details on guidance to ISGs on membership, role and remit.

### Rationale for our decision

- 5.24 We note the broad support for the role of ISGs in providing independent challenge to network companies. We believe these groups should continue to provide challenge during Business Plan development and on an enduring basis throughout the price control. This will ensure stakeholder views and the consumer voice is central from the outset and regularly feed into business operations.
- 5.25 Where opportunities are identified, we will seek feedback and further evidence from the ISGs on ongoing engagement and research done by the companies, for evidence gathering purposes.
- 5.26 We intend to consider lessons learnt from experience developed in RIIO-3 and adopt the approach where appropriate in ED3. This will be reflected in the methodology phase, where we aim to optimise the scope, role and purpose of these groups. We also recognise comments from the consultation responses on guidance on composition, reporting, scope and remit of the ISGs. This will also be developed further and we welcome input from interested parties in due course.
- 5.27 We note the call for clarification on whether ISGs will replace CEGs and the call for a review of CEGs, should they continue to exist alongside the ISGs. As the ISGs will apply to ED3 both during the development of the Business Plans and on an enduring basis, they will replace the former role of CEGs under RIIO-ED2. We will therefore not undertake a review of the CEGs.

### **Consumer voice/research**

- 5.28 In our Framework Consultation, we set out that we are considering the use of a range of methodologies to ensure the consumer voice and research remains central to our policy development and decision-making process. We also considered whether network companies should demonstrate how they have

developed their own inclusive research and stakeholder engagement programmes to ensure that consumer views are effectively accounted for in the ED3 process.

- 5.29 We asked stakeholders if they agreed we should adopt research approaches, how our approach to enhanced stakeholder engagement should be adapted to better include the perspective of all vulnerable consumers, and what alternative or additional approaches we might use to ensure the consumer voice remains central to our policy-setting process.

#### Stakeholder views

- 5.30 There was broad support for the use of deliberative research with one dissenting opinion, stating outcomes are better achieved through responsive and strict incentives and penalties. The remaining responses were either in agreement or neutral to the use of deliberative research; however, there was a split on whether this should be done by Ofgem, or the network companies themselves. Issues around regional differences, timing and ensuring value for money were raised by several respondents.
- 5.31 There was broad support for metrics, standards and methodologies being collectively agreed to ensure research and engagement is comparable. Stakeholders said this should be communicated early on to allow enough time to be implemented into Business Plans. Finally, stakeholders thought that any additional research undertaken by Ofgem should not duplicate research completed by the network companies and only be done if it adds value.
- 5.32 There was broad support for enhanced stakeholder engagement to include perspectives from vulnerable and seldom heard, digitally disengaged and worst-served customers. There were no dissenting views, but responses varied on how this may be achieved. Some responses stated the importance of tailoring engagement to stakeholder preference and that a range of methods and multiple channels is needed to reach a broad range of customer groups. Some suggested these groups should be reflected in the composition of ISGs and that additional feedback and input should be sought from across the sector, including charities and interest groups. It was also suggested that work that has already taken place in this space should be shared more widely to ensure lessons learnt and best practice.
- 5.33 Responses provided useful input to what alternative or additional approaches we might consider to ensure the consumer voice remains central to our policy setting process. Some suggestions related to mitigating inherent asymmetries between industry partners and consumer representatives, ensuring the consumer voice is

heard through the process. Furthermore, suggestions around requirements for the Business Plans to be responsive to engagement and centred around customer views is key, particularly around increases in network costs.

- 5.34 In follow-up conversations, stakeholders maintained the position that the majority of research should be completed by network companies, and any national research and engagement should be applied through a regional lens. Stakeholders thought this was important to ensure views are integrated into Business Plans early on. Stakeholders suggested Ofgem should provide guidance on any specific gaps in research and engagement, and certain areas such as willingness to pay may be more suitable for national approach to triangulate results and outcomes. Stakeholders also said there is scope for collaboration on key areas, and consistency in methodology is needed to ensure consistency. They thought this guidance should be provided centrally.

### Our decision

- 5.35 We will provide guidance on methodologies for research undertaken by the companies in support of their Business Plans.
- 5.36 There are several subject areas where it would be helpful for DNOs to work together to undertake regional research on a more consistent basis. We will work together with the DNOs to define the areas where such an approach would be appropriate.
- 5.37 We will provide guidance on how we would like research findings to be presented. We build on the requirements in RIIO-3 regarding how stakeholder engagement was reported in business plans, making clear the impact that research has had.
- 5.38 We will commission our own research programme, focusing on the impact of electricity distribution policies on affordability (including vulnerable consumers) and understanding the value that consumers place on the services provided by the DNOs. This will support communication and transparency of our decision-making.

### Rationale for our decision

- 5.39 We recognise the important role DNOs have in conducting research within their region, as they have well-established networks of stakeholders and interest groups. While it is important for the DNOs to respond to the views and priorities of consumers within their region, we believe there should be more consistency in methodology and research areas, while also encouraging innovation. This is especially important to ensure perspectives of vulnerable and digitally disengaged

customers remain central both to the development and delivery of the business plans. For this reason, the standards, methods and metrics should be applied across all research areas and engagement pieces. This will improve the reliability of outcomes and allows for easier comparison of company performance. We aim to reduce regional differences where possible, to ensure customers receive a high standard of service and are able to influence the business plans, regardless of their geographic location.

- 5.40 We recognise there is an opportunity for us to have our own research evidence base and understanding of the consumer need to draw on and shape our decisions. This was also supported by the recommendation from Citizens Advice which stated that we should understand customer views first hand, rather than mainly receiving the evidence through business plans.
- 5.41 Finally, we understand the views around ensuring any additional research adds value and the risk of stakeholder fatigue. We will therefore avoid duplication of research and engagement where possible. To ensure value is added and resources spent appropriately, we will work with DNOs and other stakeholders to understand where there are gaps and where centralised research will support a wider understanding of consumer priorities and views. This will support our own decision-making.

## Quality of service

### Connections

- 5.42 The delivery of an effective and efficient connections process is a core pillar of Ofgem's regulatory approach to ensure that DNOs deliver on the areas we know to be crucial to national priorities and on those areas customers value the most.
- 5.43 We currently measure progress in this area using a number of quality of service indicators: customer affordability of connections as a consequence of DNO cost reduction; reduced connection timescales on both supply and demand side, and a smarter, digitalized more flexible grid. As in many other areas of the electricity distribution price control, Ofgem incentives complement statutory connection standards (such as Guaranteed Standards of Performance - GSOPs) which establish minimum standards.
- 5.44 We currently encourage DNOs to achieve faster, more secure and better value connections through incentives targeting two main areas: major connections, which tracks connections at higher voltage levels to larger customers, and minor connections, targeting smaller customers. In addition, below we discuss the

BMCS incentive whose reward/penalty determination rests in equal parts on a complaints metric and a customer satisfaction survey; the latter weighted 50% on feedback from connections customers.

- 5.45 The grid connections process across both transmission and distribution is undergoing major change following our recent decision to approve NESO's proposals for connections reform.<sup>14</sup> In summary, this means the process is moving away from a "first come first served" model, which has resulted in an oversubscribed queue containing an inefficient technology mix, to a "first ready and needed, first connected" model, whereby projects must demonstrate they are 1) ready (ie possess land rights and commit to undertaking the planning consent process shortly), and 2) needed (aligned with the needs of government's Clean Power 2030 Action Plan).
- 5.46 In our Framework Consultation, we also explained that higher demand and a continued increase in renewable generation will significantly increase connection volumes during ED3, on both the primary (higher voltages) and secondary (low voltage) parts of the network. We therefore must ensure the ED3 framework is fit for purpose as the connections rates continue to increase.
- 5.47 In parallel with connections reform, we also set out a consultation on our end-to-end review of connections through which we collected connections-specific feedback across sectors.<sup>15</sup> This review, intended to complement connections reform, seeks to drive up standards from regulated parties, including DNOs at distribution level, across the connections end to end customer journey.
- 5.48 The two sets of reforms will work in unison. Whilst we expect connections reform to increase the connection rate of Clean Power 2030 aligned projects, the end-to-end review will ensure that DNOs are doing all they can within that new connections process to drive up standards and ensure timely connections.
- 5.49 In the end-to-end review we asked a range of questions covering connections across seven broad themes, all of which we see as critical to a well-functioning connections regulatory regime:
- Visibility and accuracy of connections data;
  - Improved standards of service across the customer journey;

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<sup>14</sup> [Decision on Connections Reform Package \(TM04+\) | Ofgem](#)

<sup>15</sup> [Connections end-to-end review of the regulatory framework | Ofgem](#)

- 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.

5.50 We expect to respond to the end-to-end review later in 2025 on next steps around where we think changes to the connections regulatory framework are required. Results from this ongoing dedicated work on connections and responses from the end-to-end review will be reflected in measures that we take going forward in ED3 on connections.

5.51 In our Framework Consultation we asked stakeholders a number of questions summarised on one hand by views on our general approach to the different connections incentives and on the other by how we can adapt the ED3 connections framework in general while also driving service improvements.

5.52 Lastly, in setting our direction of travel for connections in ED3, we considered suggestions contained in the NIC report; many of which were echoed in the other sources of feedback discussed below.

### Stakeholder views

5.53 We received 24 responses to our Framework Consultation document on this topic, with overall agreement and support for Ofgem's work in this area and specifically for the end-to-end connections review.

5.54 Some DNOs felt that the Time to Connect (TTC) incentive should reflect increased volumes of Low Carbon Technologies (LCT) / Low Voltage (LV) connections which have doubled since 2023. They argued that the TTC does not account for when the customer is ready and so DNOs may be penalised for late delivery even when delivering to customer timelines and specifications. Their recommendation is to incorporate this and external delays outside of DNO control eg local authority permits, into the metric.

5.55 Citizens Advice believes our targets in this area are not ambitious enough and that Ofgem should make them more stretching keeping in mind any natural floor for how short TTC timeframes can be.

5.56 Analysis of the end-to-end review consultation responses relevant to ED3 are still ongoing. Following an initial review however, we note that responses centred

around the need to align connection times quoted to customers with the actual connection dates realised (see theme 3 from the end-to-end review above), as well as the need to review the asymmetric structure of the Major Connections Incentive (MCI) and the design of the connections survey.

### Our response

- 5.57 As discussed, in light of the increased connections volumes we expect over the ED3 period, enabling timely connections, and ensuring DNOs achieve customer satisfaction in delivering those connections, will become increasingly important.
- 5.58 As noted, the end-to-end connections review is still in progress, but the outcomes of it will feed directly into the price control setting process for ED3.
- 5.59 In the absence of the outcomes of the end-to-end review we are still determining the exact nature of the changes we need to make. However, as supported by the NIC recommendations, we will likely make changes and/or introduce new protections in this area. We expect these will be in relation to minimum standards, incentives relating to both major and minor connections and on ensuring consistency of DNO performance across the entire customer journey.
- 5.60 Through ED3 we want to ensure that all consumers will have their needs met, and as the end-to-end review reports on its findings we will develop the detailed mechanisms in the methodology phase to deliver on its outcomes.

### **Broad Measure of Customer Service (BMCS)**

- 5.61 In the Framework Consultation we set out our expectation that DNOs need to deliver high quality services that meet customers' needs, and that in ED3 we will intensify our customer-centric approach to setting DNO delivery outputs and calibrating incentives.
- 5.62 The key incentive in this area is the BMCS incentive, whose purpose is to encourage DNOs to continue to improve the quality of their customer service by replicating measures used by businesses in a competitive environment.
- 5.63 We explained in our Framework Consultation that while acknowledging improvements over time, we were inclined to continue the metric in ED3 with sharper, more stretching targets. However, we welcomed views on this as well as asking how the BMCS (or new) metrics might be adapted to better reflect the wider range of interactions between DNOs and its customers - including an increasing number of small connections (<1MVA), especially for connection of LCTs, and a greater reliance on the DNOs to support the delivery of heat and transport decarbonisation.

### Stakeholder views

- 5.64 We received 10 responses, with nine respondents agreeing the incentive has been successful so far and should be continued. One stakeholder was against the continued use of the BMCS, stating it does not accurately weigh or represent consumer views and is insufficient to measure complaints and dissatisfaction. Energy UK instead suggests it needs to be more nuanced and should be adapted to record quality of how the complaint is handled, or the volume of complaints over a set period.
- 5.65 A common change suggested by stakeholders was to add other channels to our survey collection methods besides outbound telephone research. We also received suggestions to reorient survey questions away from quantitative outcomes (ie speed), to more qualitative measures (quality, impact) which capture the complete end-to-end customer experience.
- 5.66 Citizens Advice recommends we consider a zero-sum incentive with minimum level requirements to shift focus from improving performance to maintaining performance and ensure levelling-up of service across the sector.
- 5.67 One respondent said the customer satisfaction survey fails to represent customer archetypes and does not present a standardised approach to how the survey is analysed and executed by DNOs. Further, they did not deem it appropriate to monetarily reward DNOs for service that will need to improve many times over to meet the needs of the wider government decarbonisation objective.
- 5.68 The NIC recommended that Ofgem set clearer expectations about what good customer service looks like with more stretching targets and reporting. Their report also suggested DNOs should be more strongly incentivised with higher rewards for excellent performance, correspondingly stronger penalties and results made transparently available. To achieve this, the commission recommends performance be measured more robustly as the current performance measures and BMCS are limited

### Our decision

- 5.69 We will retain the BMCS in ED3. We continue to see it as an important tool in our incentive package to maintain and improve customer service and satisfaction for customers from DNOs.
- 5.70 However, and in line with the NIC recommendation, we think there may be elements of the BMCS that we can amend, particularly around performance measures for the connections process. We will look to review this as we progress

with the end-to-end connections review and develop the sector specific methodology.

### Rationale for our decision

- 5.71 As outlined in the Framework Consultation, the BMCS has been successful to date in incentivising improved performance in the delivery of quality customer service by DNOs. However, we also recognise the operational landscape is rapidly evolving, particularly with the number of LCT connections expected to significantly increase.
- 5.72 The NIC review also supported amendments in this area, particularly in relation to assessing whether the connections process is working as well as it could be. We therefore think that elements of the BMCS should be amended to ensure it can still deliver for the changing landscape of ED3 and will consider what new or amended protections should be introduced (as set out in the previous section).

### **Vulnerable customers**

- 5.73 In our Framework Consultation we set out how RIIO-ED1 and RIIO-ED2 was set up to incentivise DNOs to provide appropriate support and services to consumers in vulnerable situations. In RIIO-ED2, the Stakeholder Engagement and Consumer Vulnerability (SECV) incentive was replaced by the strengthened Customer Vulnerability Incentive (CVI) whose purpose was to ensure that DNOs are held accountable for delivering their vulnerability strategies and our baseline expectations. Ensuring no customer is left behind by incentivising and standardising outcomes in customer vulnerability continues to be a focus of our regulatory approach in ED3.
- 5.74 In our Framework Consultation, we invited responses from stakeholders on ways the CVI could be adapted for ED3 and particularly whether we should consider a closer parallel with similar vulnerability incentives in the gas distribution sector. Due to increased electrification, especially for heating and cooking, some incentives may also be applicable under electricity distribution. We highlighted the Guaranteed Standards of Performance (GSOP) for customers on the Gas distribution Networks Priority Services Register (PSR) as an example of an incentive that could be applied to electricity DNOs.

### Stakeholder views

- 5.75 We received responses from 10 stakeholders, with all respondents in favour of keeping the CVI in place for ED3.

- 5.76 On the question of adapting the incentive for ED3, we received a range of different responses. One respondent advised that since the PSR reach will likely exceed 90% by the end of RIIO-ED2, continuing to incentivise this area, as we do currently, may not be the best use of resources. They thought we should replace the PSR reach target with a metric to measure the quality of PSR information. To ensure a holistic approach to customer vulnerability, Citizens Advice suggested establishing a multi-sector PSRs.
- 5.77 On the question of greater alignment across electricity and gas distribution networks, several respondents did not feel a strong need for the gas sector GSOPs to be replicated across to electricity distribution. They highlighted the fundamental differences between the sectors and how companies operate, and in other areas such as frequency and impact of interruptions. Furthermore, some DNOs stated several measures within the confines of Ofgem's CVI package are already producing outcomes for the vulnerable similar to those seen in the gas sector; more so as the utilities sectors work in concert through the priority services register. The view from Citizens Advice differed from this view and stated that due to changing landscape, the role of GSOP should be explored in ED3.
- 5.78 We received suggestions to enlarge the scope of services DNOs can deliver eg energy saving advice and equipment, befriending services; expand channels for gathering vulnerable customer feedback to digital surveys, SMS responses as well as web-based platforms.

### Our decision

- 5.79 We will continue to incentivise positive outcomes for vulnerable electricity customers using the CVI.
- 5.80 We will continue our coordination of the effort to unify and harmonise the multi-sector priority services register.
- 5.81 In light of an expected increase in LCT connections, we will consider allowing innovation funding through the NIA and SIF to enable support for LCT projects that focuses on vulnerability.
- 5.82 We will further develop the mechanics and targets through the sector specific methodology phase of the price control setting process.
- 5.83 Lastly, to further oversee the delivery of positive outcomes, we will consider the role of ISGs in undertaking continuous monitoring, oversee qualitative outcomes and provide independent evaluation of DNO support to the vulnerable.

### Rationale for our decision

- 5.84 The CVI as a successor to the SECV in RIIO-ED1 is new in RIIO-ED2. In its current form, DNOs report on the constituent metrics only in years 2 and 5 of the price control period. This means that at the time of this publication, we have incomplete visibility as to how well the CVI is working and may work over the next few years.
- 5.85 We believe vulnerable customers are better served through different sectors working together and joining efforts in making improvements to the PSR. We also believe increased support for vulnerable customers, both for installation and advice in relation to LCT projects, is needed, especially with the expected increase in electricity usage. This could be achieved through additional innovation funding.
- 5.86 Finally, we recognise the important role of ISGs in holding companies to account on an ongoing basis. We will therefore look at the CVI in the wider role of stakeholder engagement.

### **Energy efficiency**

- 5.87 Demand for electricity is expected to increase in the coming years owing to the widespread adoption of electric heating and electric vehicles, and it is widely acknowledged that there is a need to increase the thermal efficiency of the housing stock. We were interested in stakeholders' views on whether this was an area for which DNOs should have greater responsibility.

### Stakeholder views

- 5.88 We received 19 responses from a range of stakeholders. Responses mostly focused on the first part of the question on future roles rather than the second part on how action should be funded.
- 5.89 The question on whether DNOs should have a delivery role was mostly interpreted as being involved directly in installation and most respondents were cautious about this level of involvement. The only stakeholders in favour of this were environmental interest groups. The network companies themselves expressed a range of views, though tended to see other stakeholders as being better placed to 'deliver' energy efficiency. The reason stated for this revolved around how this would be funded, lack of expertise, complexity of existing schemes and parties involved, and that efforts and resources are better used elsewhere.

- 5.90 On the question more widely, there was much broader support for DNOs building on existing strengths and playing a greater ‘coordination’ or ‘orchestrator’ role. 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) scheme. 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.
- 5.91 Overall, 84% of respondents thought that DNOs should play some kind of enhanced role in energy efficiency uptake in the future. The view of the network companies largely revolved around continued advice service provision and coordination roles.

### Our decision

- 5.92 We recognise the value energy efficiency can provide for the occupants of treated properties, but also for the network and consumers overall, through a reduction in overall final electricity demand and peak shaving. We therefore expect DNOs to build out their capabilities in this area, and in particular, we will expect DNOs to play a greater coordination role in ED3.
- 5.93 Ahead of the final determination, we will work with DESNZ and network companies to understand how this coordination role (and any potential new roles for DNOs, in particular related to delivery of government policy objectives), can be developed.

### Rationale for our decision

- 5.94 The ED3 price control spans a critical period in both the clean power and net zero transitions. We not only expect to see heat pump and electric vehicle uptake increase rapidly but to also see the gas grid begin to be reduced and the transition enter a more regionally and locally planned mode of operation as RESPs operationalise. These changes imply a markedly different set of DNO responsibilities.
- 5.95 For this transition to be effective and low cost, it is likely that DNOs will need to develop greater understanding of their consumers as their home heating and personal transport are electrified. This will enable them to better plan and deliver the networks needed in a timely and effective manner. DNOs will also likely need to develop closer relationships with local authorities and other local and regional

actors as the RESP develops. Our view is that these changes make DNOs even better placed to have a role in supporting the rollout of energy efficiency.

- 5.96 We are also aware that the government is considering the future of existing energy efficiency and clean heat schemes alongside the development of the Warm Homes Plan. We will work with government and industry to identify how DNO roles can best support delivery of government ambitions, to ensure that the role they play is part of a coherent package.
- 5.97 We recognise the sentiments expressed in the consultation process that there is widespread appetite for DNOs to play a greater role than currently and that this should look something like a greater coordination role, especially regarding area-based delivery. We recognise, that under current arrangements, direct 'delivery' was not a popular option.
- 5.98 With this stakeholder feedback in mind, and having engaged directly with experts, reviewed the available literature and innovation scheme findings as well as lessons learned over the current price control, our view is that many of the actions already underway in this space could be built upon. We want to see DNOs further develop the evidence base around the role energy efficiency improvements can play in deferring or avoiding grid reinforcement, particularly under future scenarios with high heat pump and electric vehicle penetration. We also want to see DNOs conduct research to understand the value energy efficiency could provide in terms of peak demand shaving under similar scenarios. Numerous innovation projects have begun to look at aspects of these questions (ie PIONEER/DEFENDER, OptiHeat, VIVID, PRIDE etc) and there is a need to apply these methods and learnings across all DNO license areas to understand the national picture.
- 5.99 As the ED3 price control design process progresses we will continue to engage with government and adjust our approach to ED3 if necessary. Any further development of DNO roles relating to energy efficiency, including potential enhancements in line with government policy, will be taken forward through the development of our methodology.

### **Bespoke outputs and Consumer Value Propositions**

- 5.100 In the Framework Consultation we set out what bespoke outputs and Consumer Value Propositions (CVPs) were. We recognised that they can be useful mechanisms for DNOs to demonstrate additional value while accounting for regional differences. However, we also stated that by their nature, they also create regional variations in services and potential 'postcode lottery' of benefits.

5.101 In the Framework Consultation we sought views from stakeholders on the role for bespoke outputs and CVPs, particularly how the postcode lottery issues can be mitigated and deliver benefits to consumers across GB.

#### Stakeholder views

5.102 We received 11 responses with about equal representation from both DNOs and other stakeholders. Seven of the 11 responses were either neutral or positive of CVPs, noting the benefits of delivering clear consumer outcomes, providing enhanced consumer standards, and ensuring the right incentives are in place to respond to regional uncertainties and variations. A second point was made around the benefits of continuing successful and innovative outputs and the potential for these to be replicated across other DNOs.

5.103 Although a slight majority were in favour of CVPs (six of 11), there were several qualifying statements, highlighting the process being time consuming, how additional value should benefit a wider group of stakeholders, and CVPs should be applied to specific themes, eg “no one left behind” in the energy transition.

5.104 Four of the responses did not support the continuation of CVPs and bespoke outputs. Although recognising there might be circumstances where bespoke outputs and initiatives are needed, there were concerns about the “postcode lottery” effect and suggested instead that there is scope for collaboration between DNOs on national and regional bespoke incentives. These responses were supportive of the decision to discontinue CVPs in RIIO-3 and that decision should also apply to ED3. Finally, this position also highlighted the limited value provided by the CVPs to consumers and other stakeholders, ie they have not delivered as much value as initially intended.

5.105 There were also some suggestions in the responses around improvements to making the CVPs and bespoke outputs more effective. One suggestion related to demonstrating the value provided by the bespoke outputs, stating a need for the delivered value to be cross-referenced with input from the ISG and to ensure comparable standards are implemented. There was also a suggestion to use the BPI to drive incentives that are beyond standard expectations, and that this will ensure successful proposals are embedded in the framework and funded through the price control.

#### Our decision

5.106 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. We

will look at the wider BPI as well as the criteria for bespoke outputs in the methodology.

### Rationale for our decision

- 5.107 We note the support for the continued use of bespoke outcomes and CVPs and recognise their usefulness in encouraging innovation and tailor outcomes to the needs and priorities of specific regions.
- 5.108 We also acknowledge the position taken in RIIO-3 and see the benefit in aligning ED3 to the wider sector. Having reviewed lessons learnt from RIIO-ED2, limiting bespoke outcomes will also limit regional variations in services. CVPs have proven to be resource intensive and require a greater regulatory burden, while some stakeholders also highlighted the limited proposed benefits.
- 5.109 In addition, the recommendation from the NIC states that the process for delivering consumer outcomes should be less complex. It also recommends some objectives that should deliver wider value, such as net zero, growth, resilience and high level of customer service. These recommendations will not be specific to individual regions and therefore limiting CVPs to enable delivery of wider consumer value across different regions is a more appropriate approach.

### **Environmental framework**

- 5.110 In our Framework Consultation we proposed retaining the main components of the RIIO-ED2 environmental framework as follows:
- Science Based Targets for business carbon footprint;
  - An environmental action plan (EAP) for reducing the adverse impacts of network; and
  - An Annual Environmental Report (AER) on the EAP implementation and outcomes.
- 5.111 We said there are opportunities to strengthen the effectiveness of the framework by:
- Increasing the rigour of the baseline expectations for the environmental action plan;
  - Driving more standardisation in metrics and consistency in annual environmental reporting; and
  - Monitoring and challenging company performance over the price control period.

5.112 In addition, we said it is important to consider how best to manage the potential trade-offs between increasing network capacity in ED3 and reducing the impact of the network on the environment. We highlighted two areas in particular: network losses (the major contributor of distribution networks' greenhouse gas emissions, as well as wider system costs) and the leakage of sulphur hexafluoride (SF6).

5.113 We sought stakeholders' views in relation to maintaining and strengthening the main components of the environmental framework from RIIO-ED2.

#### Stakeholder views

5.114 We received 23 responses with all stakeholders supporting retaining and strengthening core components as set out in consultation.

5.115 Stakeholders suggested several priorities for network losses and SF6 leakage as follows:

- Improving DNOs' ownership of network losses; introducing a financial incentive on losses; transparent consideration of losses in optioneering of network investments; and
- A financial incentive on SF6 leakage; mandating SF6 alternatives in ED3 in the absence of a commitment from the UK and devolved governments on a ban/phase out.

5.116 Some other points stakeholders raised included:

- Ofgem should actively review annual reports/performance and not rely on stakeholders to hold companies to account;
- Extending the scope of EAP and AER to include habitat and biodiversity restoration; sustainable procurement and circularity in waste and construction inputs; reducing pollution; wider sustainability outcomes such as well-being, inclusion, community cohesion etc; and
- Using the BPI to reward ambitious EAPs.

#### Our decision

5.117 We have decided to retain the main components of the RIIO-ED2 environmental framework. We will strengthen the effectiveness of these arrangements by focusing on the three opportunities set out in the consultation. We will also consider whether to add new areas in the EAP and AERs in ED3.

5.118 We have decided that the responsibility for dealing with the challenge of network losses will move to the DSO. We will further consider how to strengthen the requirements to reduce losses as part of SSMC.

### Rationale for our decision

5.119 We received positive feedback for our proposals in the consultation. Building on the existing environmental framework will enable us to lock in progress made to date by electricity distribution networks.

5.120 We will further consider aspects such as the treatment of SF6 leakage in ED3 and whether to increase the scope of the environmental framework as part of the next stage of policy development in our ED3 working groups.

## **Responsible financing**

5.121 In our Framework Consultation we set out positions on how we consider our financial framework more broadly to ensure it delivers alongside a shift in DNO roles. As such, we asked stakeholders for their views on our proposals to update our methodology on calculating the cost of capital, the introduction of the concept of investability in our considerations and changes to our financeability assessment. We also asked for responses to our proposals introducing additional financial resilience requirements and on any factors that we should consider when assessing regulatory depreciation, an important component in ensuring future plans and growing capital expenditure are appropriately financed.

### Stakeholder views

5.122 One consumer group raised concerns on whether our methodology for setting cost of capital allowances in ED3 could lead to unduly generous parameters for network companies and encouraged us to use cross checks to assess whether returns are fair.

5.123 The introduction of the concept of investability drew mixed views: some stakeholders asked for more information on the concept with one respondent stating that it could be structurally biased towards network companies, while around three quarters of respondents (many of which were network companies) welcomed the introduction of it. Network companies argued that allowed returns need to be sufficient to attract and retain the significant level of capital required in an environment of increasing, international, competition for capital in the push for net zero. Stakeholders also highlighted the need for financeability assessments to consider long-term financing needs.

- 5.124 Several network companies raised concerns with implementing new financial resilience measures, either stating that the proposed measures are excessive or that the sector is already sufficiently resilient. Some stakeholders have also commented on the ringfence review arguing that this sends the wrong signals to investors. Several respondents also raised questions about higher financial resilience requirements and how that will affect financeability considerations. Other stakeholders agreed with our proposed changes and our focus on reducing the risk of financial distress. The importance of applying a consistent approach across RIIO-3 and ED3 was also raised.
- 5.125 Regulatory depreciation will be a crucial area of focus in the context of financing growing capital expenditure, and we received 15 stakeholder responses on this question. Network companies in particular set out a range of views on its impact on cash flows and financeability given the 45-year length of asset lives, consumer bills in the near and long-term and methodology issues. A different stakeholder said Ofgem's approach should be based on a clear and objective framework with a robust and transparent approach to asset lives, and several stakeholders highlighted the risk of intergenerational fairness issues arising from any decisions made on regulatory depreciation. Other respondents questioned whether financeability issues would arise as a result of previous decisions to phase in an extension of asset lives from 20 to 45 years. Some stakeholder feedback provided views on how regulatory depreciation would be calculated, such as straight line or sum of digits methods.

### Our decision

- 5.126 We will further assess our proposed changes to the calculation of allowed returns and the consideration of investability and financeability as set out in our RIIO-3 Sector Specific Methodology Decision (SSMD).
- 5.127 We will further assess our proposed financial resilience measures as set out in RIIO-3 SSMD.
- 5.128 We recognise the importance of striking a balance on regulatory depreciation that considers intergenerational fairness of bills and financeability in the context of injecting the overall scale of investment anticipated for ED3 and subsequent price controls. We intend to consider this issue extensively, including commissioning our own review of regulatory depreciation policy as we proceed through the methodology phase to ensure that our decisions are informed and evidence-based and support the need for investment.

Rationale for our decision

- 5.129 Feedback received broadly supported our approach on setting cost of capital allowances in RIIO-3 SSMD. We will further test the introduction of these changes in ED3 as part of our considerations on the suitability of the overall financial framework.
- 5.130 On financial resilience, it is important that we apply a consistent approach across the sectors. We believe it is important to apply sufficient financial resilience measures (such as considering the restriction of dividends at certain levels of gearing) to help protect consumers against the risks and costs of financial distress.
- 5.131 We recognise the importance of balancing financeability and intergenerational fairness. DNOs will need to consider any potential gaps in their revenues and financing and how to best maintain their credit ratings, while the cost of assets also needs to be fairly balanced over time. While respondents have provided views and analysis, it is important that we undertake our own robust assessment of available data and evidence.

## 6. Smarter networks

### Chapter summary

We will retain the Distribution System Operator (DSO) function for ED3, ensuring it evolves to meet future needs. Key responsibilities include proactive investment planning, integrating distributed energy resources, optimising voltage management and reducing network losses. We have also decided that a 'flex first' approach to defer investment in network capacity is not appropriate in ED3, however, flexibility will continue to play a critical role where it will enable a dynamic response to manage system intermittency and address a range of local network issues.

On data and digitalisation, enhanced data sharing and digital expertise are crucial, with further work needed to identify priorities and encourage internal expertise. Artificial Intelligence (AI) presents uncertainties, and we are committed to addressing these through specific mitigations. For innovation, the RIIO-3 innovation framework will continue as proposed for the other sectors. We will also consider reforms to better incentivise and enable transformative innovation based on stakeholder feedback.

### DSO role in ED3

- 6.1 In our consultation we said there was a strong ongoing need for robust Distribution System Operator (DSO) functionality in DNOs in the ED3 period. We set out that in RIIO-ED2 the focus was on how DNOs can use flexibility to manage localised constraints and defer investments. For ED3 we asked whether retaining that stance at this stage in the energy transition is appropriate and whether the strategic focus should instead be on planning the network investment needed for rapid and significant demand growth. We considered whether the RIIO-ED2 "flex first" focus on investment deferral could lead to sub-optimal outcomes for wider system flex and/or risk network underinvestment in a period when demand growth is expected to accelerate rapidly. We also considered that DSOs should continue to focus on improving network visibility and digitalisation to support the development of smart grids.
- 6.2 We sought stakeholder views on how the price control should encourage the ongoing development of the DSO role and activities to optimise whole system benefits and what the role of the DSOs should be in identifying and delivering these whole system benefits.

### Stakeholder views

- 6.3 Stakeholders widely supported an evolution of the DSO role to optimise flexibility in the transition to net zero, ensuring demand-side response (DSR) can efficiently manage system intermittency and local network constraints. Stakeholders' views differed on whether stronger incentives or regulatory control are needed to ensure timely infrastructure delivery.
- 6.4 Stakeholders highlighted the need for greater collaboration and coordination with NESO and other stakeholders, alongside the adoption of whole-system valuation in option appraisals, to support strategic regional energy planning. They thought this approach would improve network efficiency, enable optimal network sizing, and facilitate broader market participation.
- 6.5 Stakeholders emphasised the need for a standardised evaluation framework with common key performance indicators to assess DSO performance. They thought new metrics should align with the ED3 objectives, focusing on wider use of flexibility, investment outcomes, and overall network efficiency.
- 6.6 Additional considerations raised by stakeholders were – Ofgem's continued support of low voltage monitoring in ED3, use of Artificial Intelligence (AI) tools and real time data from flexibility markets to enhance network planning and investment decisions, and recognising the important role played by revenue stacking that could help maximise the value of flexibility by ensuring financial viability and system-wide benefits.
- 6.7 On the potential availability of distribution-based flexibility most stakeholders said that this will increase as uptake of low-carbon technologies increases. Additionally, as the volume increases, so too will its value, which will further encourage greater participation and greater market liquidity. DSO-procured flex is seen as an important primer for realising distribution-based flex, that can then be used for managing the wider system.
- 6.8 On the contribution of DSO-procured flex in the ED3 period many responses said there is a range of high value use cases for flex in the net zero transition, including:
- Accelerating connections;
  - Minimising operational network risks arising from outages or faults;
  - Improving operational efficiency of networks; and

- supporting efficient delivery of reinforcement programmes, providing optionality to get reinforcements right-sized for the long term, and facilitating consumer participation in the net zero transition.
- 6.9 Several stakeholders also said that local and system flexibility are not mutually exclusive, and that digitalisation and strategic planning can reduce conflicts. Several responses called for Ofgem to take a broad view of flexibility on its use cases and design incentives to maximise the system value across all use cases.
- 6.10 We received 22 responses on the ways to optimise the use of flexibility on local networks, including:
- Strategic planning should identify the optimal mix of flexibility and network build to mitigate the risks of both under- and over building of local networks;
  - ED3 DSO incentives should be designed to unlock local flexibility;
  - Use regulatory guidelines to limit the backlog in network investment rather than constraining the use of flexibility; and
  - Update the Common Evaluation Methodology used by DSOs to consider the longer-term costs and the benefit of flexibility consistently and transparently.

### Our decision

- 6.11 We will retain the DSO function for ED3 and consider it will need to evolve. At this point we think this includes responsibility for:
- Driving proactive investment planning to ensure network headroom capacity stays ahead of need and that DER, including consumer led flexibility, can access and can be utilised by the wider system; and
  - Improving operational efficiency (eg through optimising voltage management) and reducing network losses in ED3.
- 6.12 We will consider the options (including whether a financial incentive is needed) to drive the DSOs to deliver this consumer value with stakeholders during the ED3 methodology stage.
- 6.13 We agree with stakeholders that there is still an important role for DSO-procured flexibility in the ED3 period, particularly where this enables faster connections, helps to manage outages and faults, or is the optimal solution in the long-term. However, when compared to RIIO-ED2, we have decided that a 'flex first' approach, where network flexibility is used to specifically to defer investment in

network capacity is not appropriate in ED3. We think it is important that DNOs do not use flexibility to defer investment until it is needed 'just in time'. Instead, DNOs should plan and build their network, enabling a smooth build profile that will meet net zero by 2050. The value of flexibility for the wider system can then be delivered through managing peak demand and intermittent low carbon generation efficiently.

### Rationale for our decision

- 6.14 In ED3 DSOs will need to play a crucial role in network planning for long-term needs and in making sure the distribution network enables the connections needed to deliver clean power by 2030.
- 6.15 The tRESP/RESPs will have a direction-setting role in the DSOs' network planning processes. The DSOs must align electricity network plans to meet future capacity needs at relevant network nodes that the tRESP/RESP spatially model the pathways against. In addition, we expect the DSOs to use their local network knowledge, and licence obligations in formulating their long-term integrated network development plans.
- 6.16 We see flexibility as being critical in ED3 to enable a dynamic response to manage system intermittency and effectively address a range of local network issues (eg handling faults and outages); thereby ensuring a more resilient and adaptable electricity distribution system. DSOs will need to continue to play an important role in enabling this. However, for ED3 we do not think it is appropriate to use flexibility to avoid building network investment that will be required for demand growth at some point (in the 2030s), for the following reasons:
- Cost savings from flexibility are primarily achieved by reducing the need for generation/storage, with network savings being secondary. A strategic approach is required to optimise these savings, involving a robust network to handle peak power flows and encouraging consumer demand for cheap renewables;
  - We intend to prioritise network build over using flexibility to delay reinforcement where the long-term view on network needs suggest physical reinforcement is inevitable. It is critical at this stage of the energy transition to develop a clear pipeline of reinforcement to enable supply chains to scale while at the same time building a sustainable, skilled workforce for the long-term. DNOs are encouraged to continue using flexibility to manage networks, with system reforms to help consumers benefit from matching demand with cheap renewables; and

- Future reassessment of network flexibility to delay reinforcement will occur as the energy transition progresses, with potential changes in position as more generation/storage is deployed.
- 6.17 As part of our methodology, we will explore the potential contribution and roles of DSOs in facilitating the growth, visibility and access of flexible DER, including consumer flexibility for the wider system. This will be essential for delivering on the objectives set out in the Clean Power 2030 action plan and beyond.
- 6.18 With LV monitoring and forecasting capabilities being developed during RIIO-ED2, DSOs are well positioned to leverage real-time data and insights into their networks. This can help improve operational efficiency by optimising voltage and reduce network losses, resulting in a more stable and efficient electricity system in ED3.
- 6.19 For the ED3 methodology phase, we will assess how best to realise the value and benefits of the investments made in RIIO-ED2 LV monitoring. We will consider developing appropriate guidance, scope, targets, and incentives to drive improvements in operational efficiency, voltage optimisation and network loss reduction.

### Data and digital

- 6.20 We are committed to further digitalisation of the energy sector and unlocking the value of data to drive efficiencies and deliver benefits to consumers. Digitalising the energy system is essential for the UK to achieve net zero carbon emissions by 2050.
- 6.21 In RIIO-ED2, the focus was on establishing foundational digitalisation strategies and action plans for DNOs. This included the implementation of the Digitalisation Licence Condition, which mandated regular updates to Digitalisation Strategies and Action Plans (DSAPs) and adherence to Data Best Practice (DBP) principles. Significant investments are being made to enhance network monitoring, data collection, and digital tools, aiming to improve transparency and stakeholder engagement. The overarching goal is to create a robust digital infrastructure that can support the evolving needs of the energy sector. By the end of RIIO-ED2, we expect DNOs to have made significant progress in these areas, including the deployment of advanced metering infrastructure, the integration of real-time data analytics, and the establishment of open data platforms to facilitate data sharing and innovation.

- 6.22 However, despite the progress, alignment between digitalisation efforts and broader strategic priorities such as network planning, flexibility, and connections can still be better. Additionally, the sector faces challenges in data sharing and collaboration, with inconsistencies in data quality and accessibility across different DNOs. The need for enhanced internal digital expertise and the integration of advanced technologies like AI is an area that requires further development.
- 6.23 With the proliferation of millions of distributed assets the future energy system requires better quality and more easily accessible data than is currently available. This will ensure a net zero energy system is operated at least cost for consumers. Reliable and standardised data transfers that operate effectively will positively impact the management of capacity across networks, the rise of millions of distributed assets, the interconnected nature of different systems and operators as well as decentralisation.
- 6.24 In the consultation we noted that DNOs are at different stages in their digitalisation journey, and that we would be exploring the need for greater alignment between DNO investments in ED3, and greater progress on interoperability, with part of this work being done outside of the price control process. We are working with industry stakeholders to make sure that the transition to net zero uses a flexible, resilient and efficient energy system that works for everyone.
- 6.25 We also noted the need to consider how we can enable greater data sharing across network companies, which will be achieved through the Data Sharing Infrastructure. Additionally, we highlighted the risks and benefits of AI and that we would need to consider whether specific mitigations or preparations should be made now.
- 6.26 We also asked questions on incentivising data sharing in prioritised strategic areas, how to achieve internal digital expertise in licensees, and on how network companies should be using AI.

### Stakeholder views

- 6.27 Twenty-three stakeholders responded to questions on data and digitalisation - representing DNOs, consumer groups, organisations, and private companies.
- 6.28 Stakeholders broadly expressed support for the proposed approach to data and digitalisation in RIIO-3. In particular, stakeholders agreed that there was a need for greater collaboration, alignment, and interoperability in the sector. All stakeholders were supportive of greater use and sharing of data, and increased digitalisation.

- 6.29 Most stakeholders were supportive on incentivising data sharing in prioritised strategic areas but had differing views on what areas to prioritise. The majority felt that these strategic priorities should include network planning, flexibility, and connections. Some stakeholders chose to emphasise the importance of grid digitalisation and the collection of real-time data to optimise network capacity/resilience. A minority felt it was too early to focus on strategic priorities, citing risks of siloed behaviours and perverse incentives.
- 6.30 The majority of stakeholders agreed that greater development of internal digital expertise in licensees was important and suggested a range of ways to achieve this. Recommendations included linking digitisation incentives to clear objectives and goals, fostering partnerships with external experts, and ensuring comprehensive training initiatives. Some respondents pointed out gaps in digital engineering expertise and the need for a cultural shift towards embracing digitalisation.
- 6.31 On how network companies should be using AI, the majority supported the integration of AI to improve network insight and decision-making. Stakeholders in general noted that there were both challenges and opportunities in AI, and some felt that Ofgem should focus on outputs/outcomes and not consider interventions for a specific technology.

### Our decision

- 6.32 We are confirming our proposals on enhanced data sharing for strategic areas and digital expertise. More work is needed to understand how enhanced data sharing could work and what specific areas should be prioritised. More work is also needed to understand how Ofgem can best encourage greater internal digital expertise.
- 6.33 AI presents opportunities but also uncertainties and risks, and we confirm our commitment to consider specific mitigations or preparations that are needed. We will explore the need for greater alignment, collaboration, and interoperability between DNOs – both in and outside of the price control process.

### Rationale for our decision

- 6.34 Our energy system is becoming more complex as we progress towards net zero. To overcome this complexity, sector participants will require higher quality and more easily accessible data to fulfil their roles. Alongside licensee participation in the Data Sharing Infrastructure which will be vital to meeting this, we have considered that the pace of decarbonisation and development needed may

require special consideration of priority areas such as network planning, flexibility, and connections.

- 6.35 To meet the digitalisation challenges of the future and prepare for uncertain outcomes in technology development, companies will need to develop greater internal digital expertise. Similarly, AI as a technology has an uncertain future. While there are potential opportunities including transforming planning, management, and real-time operation of distribution networks, there may also be challenges such as increased susceptibility to cyber attacks. This is why we will be considering what mitigations and preparations might be needed, and how to encourage greater internal digital expertise.
- 6.36 As DNOs are at different stages of their digitalisation journeys, we need to consider the risks coming from this, such as on duplication of innovation projects and slower progress on interoperability. While much of this could come from greater collaboration that can be stimulated outside of the price control process, it may be necessary to drive specific investments across the DNOs relating to interoperability.
- 6.37 All respondents to the consultation were supportive of greater use/sharing of data and further digitalisation. The majority of stakeholders supported our outlined approach and proposals. The consultation did not highlight any fundamental flaws with our approach.

## Innovation

- 6.38 In the consultation, we set out our position to retain the NIA and SIF for ED3, recognising that further consideration should be given to how these funding mechanisms need to be evolved to remain appropriate for incentivising transformative innovations. This position reflects our view that to deliver a decarbonised energy system that is safe, reliable and efficient at a pace in line with our net zero targets, electricity distribution companies, like those companies in the other sectors, have to find new ways of developing and operating their networks, and these mechanisms play a key role in enabling this.
- 6.39 We proposed to mirror the approach outlined in the RIIO-3 price control for electricity and gas transmission and gas distribution, which would include introducing additional monitoring requirements for NIA-funded projects and explore longer-term SIF Challenges and mechanisms to better incentivise and enable the deployment of innovation. We sought stakeholder views on whether the solutions considered are appropriate for ED3. In particular, we asked stakeholders whether further changes, alongside those proposed in the RIIO-3

price control for the other sectors, are required to deliver high impact, transformative innovation and whether there are any factors particular to DNOs that facilitate or challenge deployment of innovation on their own and across networks.

### Stakeholder views

- 6.40 We received 19 responses and stakeholders broadly expressed support for the proposed approach to innovation in RIIO-3, welcoming our proposals to retain NIA and SIF for ED3. However, while some stakeholders thought that both NIA and SIF provide appropriate mechanisms to effectively incentivise network innovation, others called for an expansion of these funding mechanisms, arguing that the level of funding provided does not align with the requirement to deliver high impact, transformative innovation. In particular, some stakeholders thought that NIA should be expanded to provide greater funding for projects that progress technologies from mid-level Technology Readiness Levels (TRLs) to full deployment.
- 6.41 Regarding SIF, there were calls for simplifying and streamlining SIF Discovery and Alpha stages to reduce the bureaucratic burden on applicants. In addition, stakeholders called for appropriate mechanisms to be developed to encourage projects to transition to business as usual more rapidly
- 6.42 Regarding enhanced NIA monitoring, while the majority of stakeholders supported increased monitoring of NIA projects, some network companies argued against it, stating that there are already high requirements for reporting and that additional requirements could result in heightened project costs and slow down delivery. However, stakeholders were in agreement that reporting should be standardised across network companies.
- 6.43 Stakeholders were also in support of introducing a deployment rollout mechanism, stating that it would enable the electricity distribution networks to realise the benefits of innovations sooner. Some stakeholders suggested that, in addition to funding, the deployment rollout mechanism should be developed considering other factors such as the network companies' capacity to change, approach to risks, and the standing of previously developed innovations. There were also calls for clearer definitions and expectations around deployment.
- 6.44 Regarding deployment, stakeholders expressed concerns that the existing funding mechanisms do not sufficiently incentivise roll out of proven innovations, calling for more support to bridge the gap between trial completion and implementation of solutions. There were suggestions that deployment could be incentivised by

providing longer-term funding, with some stakeholders calling for the introduction of Innovation Deployment Mechanism which would allow companies to apply for an additional Totex allowance to cover reasonable deployment costs during the price control, thereby funding innovations when they are ready to be deployed. Some stakeholders however suggested that a separate investment outside the innovation stimulus is needed to better support the deployment of new solutions. In addition, some stakeholders pointed out that electricity distribution companies may need different treatment than electricity and gas transmission and gas distribution companies due to having shorter price control timescales and differing innovation needs.

- 6.45 Stakeholders also called for greater collaboration between network companies, stating that stronger incentives from Ofgem are needed to encourage collaboration between DNOs. For example, stakeholders said that data sharing between DNOs should be encouraged to enable faster deployment and adoption of cross-cutting solutions.

### Our decision

- 6.46 For the overarching ED3 innovation framework, we will align the ED3 approach with the proposals being taken in the RIIO-3 price control for the other sectors.
- 6.47 Regarding deployment, we will continue to explore what reforms are needed to better incentivise and enable deployment of transformative innovation in light of stakeholder feedback.

### Rationale for our decision

- 6.48 The consultation did not highlight any fundamental flaws with our approach to ED3 innovation. Stakeholders were mostly neutral or in favour of aligning ED3 with RIIO-3 price control proposals for the other sectors. Based on this, we will continue our planned approach of retaining NIA and SIF in line with RIIO-3 more broadly, unless new evidence emerges that adjustments to the framework are needed.
- 6.49 We acknowledge stakeholder calls for an expansion of NIA and SIF funds and the need to streamline the SIF process. The changes we announced to SIF in August 2024<sup>16</sup> have already introduced a more streamlined process for SIF, giving applicants more opportunities to access funding while at the same time allowing for greater flexibility around project start dates and duration. However, we will

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<sup>16</sup> [Ofgem announce new approach to Strategic Innovation Fund to drive progress to net zero by 2030 | Ofgem](#)

consider how both SIF and NIA funding mechanisms need to evolve further to better encourage development of transformative innovations and their subsequent roll out to business as usual.

- 6.50 While some stakeholders were against introducing more monitoring for NIA-funded projects, we consider that increased monitoring of NIA projects could enhance the quality of project proposals and overall result in better project outcomes. We will look to standardise the reporting required from networks to enhance fairness and transparency of NIA monitoring process.
- 6.51 The consultation responses highlighted the need to enable faster deployment of innovations. This supports our proposals to consider the framework and rules that govern network activities to ensure that they remain appropriate for incentivising rollout of transformative innovations. We are already seeing impactful deployment of network innovation projects. For example, technologies such as Active Network Management and Dynamic Line Rating are now becoming standard across networks after initial trials supported through past innovation funding mechanisms. However, we are keen to ensure that in ED3 the innovations are scaled up and deployed at a faster rate. Based on this, our broad position is that a reform to, rather than revolution of, the current innovation package is required. We will undertake further policy work in the coming months to explore what specific reforms are needed to support deployment. We will also explore whether additional support mechanisms should be introduced to better incentivise deployment.

## 7. Resilient networks

### Chapter summary

We will retain the NARM, expand its asset base incrementally, and capture any additional benefits from asset health-driven interventions as separate outputs. We will conduct stress testing to establish a long-term acceptable level of climate resilience during the development of our methodology, fund any necessary activities to meet this level, and enhance existing regulatory tools to better integrate climate resilience into network investment decisions. We will maintain the IIS, the worst-served customer Use-it-or-Lose-it (UIOLI) allowance, continue surveys and studies around Value of Loss Lost Load (VoLL), and review evidence to explore additional arrangements for strengthening future decisions on the security of supply and reliability. As in RIIO-3, we will align the cyber framework with the NIS Regulations, unify Information Technology (IT) and Operational Technology (OT) plans into a single Cyber Resilience plan, streamline PCDs, and adopt standard allowances. To tackle supply chain and workforce pressures, we will introduce long-term integrated network development plans, require supply chain strategies, support the government's wide-ranging workforce initiatives, and encourage industry collaboration on traineeships, standardised qualifications, and reporting workforce metrics.

### Introduction

- 7.1 Network resilience is an essential precondition for securing consumer participation in Clean Power 2030 and net zero by 2050. The importance of consumer engagement is underscored by events such as Storm Éowyn earlier this year, which temporarily left over 600,000 properties without power across GB.<sup>17</sup> With greater electrification, the risk of such disruptions to cause cascading effects on our wider critical infrastructure, including telecoms, transport, and water systems, also grows. This can profoundly impact the quality of daily life and undermine consumer confidence in the reliability of our energy infrastructure. Additionally, if consumers perceive the network as unable to withstand increasing physical, financial, and cyber stresses and shocks, they will be hesitant to partake in the energy transition.
- 7.2 Network resilience involves several critical components, such as maintaining asset health, climate resilience, cybersecurity, security of supply, and supply chain and

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<sup>17</sup> [Storm Éowyn - Hansard - UK Parliament](#)

workforce resilience. Each of these elements plays a vital role in safeguarding the stability and reliability of the distribution network. This chapter details our decisions in these critical areas.

### **NARM and integrated approach to asset health**

- 7.3 In our Framework Consultation, we proposed retaining the NARM for the ED3 period as part of a comprehensive approach to justifying and assessing the investments and strategic preferences of electricity distribution network companies. We suggested exploring opportunities to enhance NARM by identifying additional asset categories to incorporate into the framework, improving our understanding of network risk, increasing digitalization, and enhancing reporting and assurance processes.
- 7.4 We further proposed that when decisions are made to replace and refurbish assets, DNOs must demonstrate that they have considered expected demand and generation requirements, as defined by the RESP pathways, within their decision-making processes. We welcomed views on whether a more prescriptive approach might be helpful, like those described in Chapter 4 Networks for net zero, to hold network companies to account on the delivery of their asset health plans.
- 7.5 We sought stakeholder views on the risks and opportunities of integrating asset health investments with load-driven expenditure, how this approach might be adopted, and what risks and gaps might arise from using different approaches for load and non-load mechanisms.

### Stakeholder views

- 7.6 All twelve respondents strongly supported retaining NARM, recognising its role in maintaining a safe and resilient network. Many stakeholders consider it a vital tool for standardised asset risk management. Ten stakeholders endorsed evolving NARM by incorporating new asset categories. However, respondents also noted that careful consideration is needed due to the challenges of incorporating new assets into the existing NARM framework. Stakeholders suggested adopting new assets using an incremental or sandbox approach, depending on the asset and available data, to avoid undermining the current framework. Network companies are collaborating through the NARM Electricity Distribution Working Group (NEDWG) to identify new asset classes for inclusion in NARM.
- 7.7 There was support for enhanced standardisation and digitalisation, with several stakeholders endorsing the continued development of the Common Network Asset Indices Methodology (CNAIM) and associated guidance. One stakeholder

suggested that DNOs could enhance data standardisation by developing a customer-facing data platform. A few stakeholders cautioned against pursuing consistency for its own sake, emphasising that it should be achieved where it benefits consumers.

- 7.8 Five DNOs indicated that an input-based, programmatic approach is unsuitable for asset health. They emphasised the need for flexibility in delivering plans while responding to emerging risks, with some respondents asserting that DNOs should only be held accountable for achieving the risk target.
- 7.9 One network company advocated for a 'light touch' approach for NARM-based interventions, moving away from detailed cost assessment to fully utilise the £/risk point mechanism embedded in NARM. The respondent suggested that NARM should not assess delivery at an individual asset or project level. This view was echoed by two other network companies who warned against Ofgem regulatory overreach.
- 7.10 One network company supported retaining NARM but felt it was not fit for purpose in its current state, as it does not consider broader and longer-term drivers of asset management, such as climate change. The respondent suggested that incorporating multiple drivers into a monetised risk measure would be a logical extension, though it may require a different mechanism. One respondent suggested making NARM more ambitious.
- 7.11 Our question on considering a more integrated approach to asset health, together with load-driven expenditure received sixteen responses. Due to its breadth, the question was interpreted in various ways.
- 7.12 There was broad support for recognising the interactions between load and non-load investment and exploring their synergies. Five respondents highlighted the need for an integrated approach, particularly for longer-term resilience and protecting assets and customers against risks associated with climate change. Four respondents expressed concerns around combining NARM with other risk drivers into a single metric, suggesting that other KPIs could be developed to work alongside NARM within a unified resilience framework. A few respondents felt that the multiple benefits of any single intervention should be reported, regardless of its driver, and that DNOs should not be penalised for determining the hierarchy of drivers (ie primary, secondary, tertiary, etc.). One respondent shared concern around decision making paralysis in a framework considering multiple drivers and underlined safeguarding single investment drivers.

- 7.13 Half of the DNOs felt that an optimised approach to load and non-load already exists and cautioned against a plan-and-deliver approach in NARM as this could jeopardise efficient investment. A few DNOs emphasised the need for flexibility in compliance and health-related investments. Two non-DNO stakeholders thought that a plan-and-deliver approach could increase the risk of stranded assets due to network over-investment.
- 7.14 A few respondents commented that NARM does not consider load capacity solutions, often recognising the lowest cost option to reduce risk output. They suggested that cost assessment should account for the costs of upsizing to meet net-zero targets. One respondent proposed de-linking costs and volumes from the reporting of outputs.

### Our decision

- 7.15 We will retain NARM and improve it by expanding the scope of assets under the NARM framework and enhancing our data assurances practices. We will review whether climate change impacts asset deterioration and consider incorporating these effects into NARM (see the next section on climateClimate resilience for more details).
- 7.16 As stated in paragraphs 4.38 to 4.40, we will develop a more sophisticated framework that recognises that asset health investment plans should be developed as part of long-term, integrated network development plans. Where asset health interventions are made, we expect assets to be sized for the future. Synergies and long-term delivery efficiencies should be identified and set out transparently, with opportunities to 'touch the network once'. This should also capture the multiple drivers and outputs of any single asset intervention.

### Rationale for our decision

- 7.17 We acknowledge the broad support for retaining NARM as a vital tool for ensuring DNOs deliver safe and resilient networks, and we recognise the progress that has already been made in developing NARM in RIIO-ED2. We believe that continuing this progress into ED3 will ensure it remains fit for purpose.
- 7.18 We note that several respondents highlighted concerns about adopting new assets into NARM and recognise that this must be done with consideration. We will explore approaches to achieve this and ensure the framework remains credible and robust.
- 7.19 We also aim to ensure that the Electricity Network Association's Good Practice Guide to DNO Common Network Asset Indices Methodology and the Information

Gathering Plans are adopted and embedded in DNO practices appropriately. To enhance our data assurance of the NARM framework, we will consider implementing an audit process for compliance with these documents. This process may need to be overseen by an independent entity and include requiring the licensee to procure independent inspections.

- 7.20 A number of respondents highlighted the need to recognise synergies and interactions between load and non-load investments, and the need for a framework that captures the multiple benefits of interventions. We think that developing a framework which recognises overlapping drivers would encourage investment ahead of need and allow synergies to be leveraged.
- 7.21 When decisions are taken to replace or refurbish assets, DNOs will need to demonstrate that they have considered the future demand, generation, climate, cybersecurity, and other requirements within their decision-making processes.

### Climate resilience

- 7.22 In our Framework Consultation, we highlighted the critical importance of addressing climate resilience in the electricity distribution network. UK Climate Projections (UKCP18) indicate warmer, wetter winters, hotter, drier summers, and more frequent and intense storms, posing significant risks to the network. To ensure reliability for consumers, RIIO-ED2 required network companies to submit a Climate Resilience Strategy (CRS), detailing flood mitigation and vegetation management plans. A Climate Change Resilience Working Group was established to facilitate discussions and develop metrics for implementation in ED3.
- 7.23 Our Framework Consultation proposed a strategic approach to new network investments, including asset hardening and incident recovery strategies. The development of Cost-Benefit Analysis (CBA) methods and other tools like minimum standards and stress testing were emphasised to account for the value of climate resilience.
- 7.24 Stakeholders were asked to provide feedback on the proposed approach for ED3, particularly on anticipatory investment decisions and cost-effective network resilience. Suggestions were also sought on monitoring progress and the suitability of existing incentives to ensure a reliable network service amidst current and future climate hazards.

### Stakeholder views

- 7.25 We received 16 responses from a broad range of stakeholders, however, not all stakeholders responded to all three of our questions.

- 7.26 All stakeholders recognised the importance and urgency of embedding climate resilience into the distribution network, with some referencing to the increased necessity of future-proofing investments as we transition to meet our net zero targets.
- 7.27 Responses focussed on several key themes, particularly the need for proactive and anticipatory investments to build network resilience against climate change. However, opinions varied on whether an input-based approach would be appropriate. Some of the stakeholders suggested that this approach would lead to reduced in-period flexibility, suggesting that an output-based approach should remain. Others believed that an input-based approach would provide more certainty and could be effective if policies and geographical flexibility were clearly defined. There was support for developing a dedicated resilience investment driver and metrics to monitor progress and ensure accountability.
- 7.28 Another key theme related to incentive mechanisms. Stakeholders agreed that current incentives like the IIS and GSOP have been effective in improving reliability but need updating to reflect modern electricity usage and climate risks. Stakeholders felt that ED3 is the right time to review these incentives, particularly as severe weather event thresholds under IIS create perverse incentives by excluding extreme weather from the incentive. They thought this discourages proactive investment against extreme weather which could be an increasing issue as climate change increases the frequency and severity of extreme weather.
- 7.29 In addition to current incentives, stakeholders supported the continued development of Climate Resilience Metrics and Indicators (CRMI). However, several raised concerns about the feasibility of implementation for the start of ED3. Respondents also supported the review of the Value of Lost Load (VoLL) to account for the increased dependency on electricity and the impact of supply loss which can be used to estimate the value during an extreme weather event.
- 7.30 Stakeholders agreed that using adaptation pathways and regional climate projections could drive a more flexible and data-driven approach to monitoring and addressing climate risks. They also called for research into alternative ways of assessing severe events that are not solely dependent on measurable outcomes.
- 7.31 It is clear from the responses that collaboration must remain at the forefront of this work. Collaborating with industry, academia and government will be crucial in defining resilience standards and supporting regulatory frameworks.

- 7.32 Finally, stakeholders noted the importance of considering whole-system interdependencies and the broader impact of climate change on infrastructure, which needs further exploration.

Our decision

- 7.33 We will aim to set a long-term climate resilience goal, defining an acceptable level of climate resilience, at the ED3 SSMD stage. This will be informed by stress testing conducted by network companies by the end of 2025, testing different reference levels of resilience, for example, maintaining current climate resilience levels by 2080. We will collaborate closely with government and NESO to ensure alignment with their policies and work related to resilience.
- 7.34 We expect to fund necessary activities within ED3 to meet this long-term climate resilience goal. Where practical and efficient, we will hold companies to account in delivering these activities. DNOs will be required to include detailed rationales for investment decisions related to climate resilience in their Business Plans, and we will offer guidance on this process.
- 7.35 Climate resilience necessitates an iterative approach and capability building. We will use future price controls (and reopeners if necessary) to refine our approach as more information becomes available. As our data and understanding evolve, and we enhance our regulatory approach, we will adjust our methods to stay aligned with our long-term climate resilience goal.
- 7.36 We will also refine existing regulatory tools in ED3 to better account for and justify investment related to climate resilience. We are reviewing the regulatory toolkit and will consider the following options individually and as a package during the methodology stage:
- Improve guidance on Climate Resilience Strategies;
  - Review IIS Severe Weather Exceptional Event (SWEE) thresholds;
  - Review GSOP payments;
  - Review standards and their enforcement; and
  - Incorporate climate considerations into NARM.
- 7.37 Collaboration with companies and wider stakeholders will be central to future decisions, facilitated through our new stress testing working group and the ENA Climate Change Resilience Working Group.

Rationale for our decision

- 7.38 Lack of clarity on acceptable levels of resilience against a changing climate hinders our objective of future-proofing investments. Setting a goal is complicated due to difficulties in measuring resilience, weather and climate uncertainties, and understanding the cost and impacts of mitigating high impact, low probability (HILP) events. We believe that requiring network companies to conduct stress testing and quantify investments at different reference levels of resilience by the end of this year will address key information gaps and help balance costs and service levels.
- 7.39 Our rationale for testing against maintaining current climate resilience levels by 2080 is twofold: consumers and the government are unlikely to accept lower service levels without understanding the associated costs, and new assets must be future-proofed for climate change and consider their average expected lifespan to be 50-60 years. The stress testing exercise will compare investment levels for this reference level against others to determine appropriateness. While this work may not capture all the details, it will provide direction for decision-making and inform a longer-term approach to stress testing. To ensure that both the stress testing exercise and the climate resilience goal are informative and provide clear pathways, we will develop climate resilience metrics and indicators. We are currently collaborating with the industry to develop a methodology and options for delivery, which will be detailed in the SSMD.
- 7.40 Our approach balances building climate resilience capabilities over time with the need for proactive investment now. We recognise the urgency of the issue and the necessity of future-proofing investment decisions. We will continue collaborating with network companies to develop feasible guidance within the timeframes. To ensure progress towards the long-term climate resilience goal, we will hold DNOs accountable for key investments, output tools, and incentives. However, given the diverse network structures, geographical differentiation in climate risks, and the resulting variations in investment needs, we aim to retain some flexibility in delivering the goal. Not all investments related to climate resilience will be straightforward to hold to account. Therefore, it is also important to embed climate resilience into existing regulatory tools, and we propose the following measures to implement this:
- i. **Provide more detailed guidance on Climate Resilience Strategies (CRS).** This includes offering clarity on a consistent structure, linking the long-term climate resilience goal with investments within the period and clearer expectations on adaptive pathways. This may involve reviewing CBA

guidance to improve justification and accounting for the benefits of climate resilience investments. We may also provide guidance on regular long-term stress testing to inform investment decisions, comparing different actions to achieve resilience (eg comparing options to resist, absorb, or recover to determine the most cost-effective).

- ii. **Review IIS SWEE thresholds.** In light of the increasing severity and frequency of severe weather, extreme weather thresholds may need reviewing. Further details are provided in the next section on security of supply and reliability.
- iii. **Review GSOP payments.** Ensuring consumers receive appropriate payments for electrical outages is vital given increased electrification in future. We aim to review whether linking payments to the value of lost load or ensuring different levels of payments can provide greater protection to consumers.
- iv. **Review standards and their enforcement.** Specific standards related to climate hazards, such as ETR138 for flooding, have successfully driven investment for managing this climate risk. We are reviewing whether there is an opportunity to introduce further standards for other climate hazards or to review how we enforce existing standards.
- v. **Incorporate climate considerations into NARM.** This includes assessing whether climate change impacts the rates of asset deterioration and whether this can be embedded into NARM.

## **Security of supply and reliability**

- 7.41 Reliability of the electricity network is of the upmost importance to consumers and since RIIO-ED1 we have sought to incentivise DNOs to improve network reliability by reducing the frequency and duration of outages. Complementary to the GSOP on reliability, Ofgem uses the Interruption Incentive Scheme (IIS) and other financial and reputational tools to achieve this purpose.
- 7.42 In our Framework Consultation, we set out the opportunities and challenges facing the electricity distribution sector over the coming years in the context of the net zero goal and wanted to know what stakeholders thought of our current approach towards regulating reliability.

## Stakeholder views

- 7.43 Of the 14 responses we received, 11 stakeholders agreed with the current approach. Network Companies in particular, praised the success of our regulatory approach in driving performance improvements. Two respondents disagreed with

the reliability package being fit for purpose and highlighted the vanishing headroom for performance improvement; they recommended replacing the IIS with a minimum standard.

- 7.44 Improvements were suggested for the incentive; the vast majority of which centred on modifications to its structure, strength and methodology of application. Several respondents also suggested focusing the incentive on more specific types of interruption, such as unplanned and low voltage interruptions.
- 7.45 We also noted the NIC recommendations that echoed the effectiveness of the IIS while acknowledging the landscape which has accompanied this success will profoundly change going forward. In light of this, the NIC recommended DNOs identify "no regrets" activities ahead of a wider government review of resilience standards by end 2028.
- 7.46 Finally, many suggestions touched on the need to incentivise the minimisation of short interruptions (interruptions lasting less than three minutes); as well as on the need to update the Value of Lost Load (VoLL); a monetary representation of the cost of interrupted supply and a critical component of the mechanism with which we convert interruptions to rewards and penalties.

### Our decision

- 7.47 We will maintain the IIS in ED3 and communicate at methodology stage any modifications to its structure, strength or calculation. This includes reviewing the extreme weather threshold in light of increasing severity and frequency of extreme weather events.
- 7.48 We will continue the surveys, studies, and evidence analysis already started around VoLL and other topics with interdependencies with the IIS such as the SWEE thresholds; with the aim of completing these in time to feed into the price control setting process for ED3.
- 7.49 In relation to this, the worst-served customer UIOLI - under which we allocated £90 million to DNOs to support high voltage customers experiencing at least four interruptions per regulatory year over three years - will also be maintained in ED3.
- 7.50 We will continue to review evidence, including RIIO-ED2 reporting pack submissions from DNOs on incidence frequency, localisation and impact of short interruptions, and will explore whether additional arrangements are required to minimise disruption to customers who have previously experienced a high

frequency or duration of interrupted supply. We will consult further with stakeholders prior to making any decisions in this area.

### Rationale for our decision

- 7.51 As many respondents highlighted, the IIS was tightened ahead of RIIO-ED2 taking into consideration increased dependence on the electricity sector notably for heat and transport. The GSOPs underpinning this area were also evaluated in light of the Storm Arwen report with new changes coming into effect in September 2023.
- 7.52 We are conscious of the increased risk of disruption from (i) projected increase in reliance on electricity, (ii) greater dispersion in demand and supply sources (iii) increase in severe weather occurrences and (iv) planned interruptions from increased capacity build; to mention only a few. Given this, as laid out in our Framework Consultation, we want to ensure that even in the riskier and more challenging environment for DNOs coupled with changing consumer expectations projected over the ED3 price control, that we are capturing and maintaining performance gains while continuing to protect the most underserved customers from the impact of interruptions.

### **Cyber resilience**

- 7.53 Our Framework Consultation outlined that historically, across RIIO-2, including RIIO-ED2, our cyber resilience framework required DNOs to publish cyber resilience plans for Information Technology (IT) and Operational Technology (OT). To support the implementation of these plans, we provided baseline allowances and a UIOLI allowance, including two separate re-openers to fund any additional activities.
- 7.54 We proposed to evolve our approach to cyber security in ED3 by building on the approach taken for the RIIO-3 price controls. This evolution involves streamlining the cyber resilience framework by adopting a principles-led approach that aligns with the NIS Regulations and by reducing the number of PCDs. The latter would, by extension, reduce the administrative burden on both Ofgem and the network companies. Additionally, we proposed changing the funding structure from predominantly UIOLI and re-opener funding in RIIO-ED2, to primarily setting baseline allowances for network companies to deliver the proposals outlined in their Business Plans. We sought stakeholder feedback on this approach.

### Stakeholder views

7.55 We received 11 responses, six from the DNOs with a further five responses from other stakeholders. One stakeholder provided a neutral response, and the rest agreed with our proposals.

### Our decision

7.56 Our decision is to confirm the main proposals set out in our Framework Consultation, that we will:

- Align the ED3 cyber framework with the NIS Regulations legislative framework wherever possible to strengthen and simplify our regulatory framework;
- Combine IT and OT into one Cyber Resilience plan to better align with NIS Regulations and reduce the administrative overheads associated with delivering and assessing two separate plans;
- Streamline PCDs to focus on those that provide the most value for consumers; and
- Transition towards standard allowances rather than UIOLI funding to drive efficient delivery, recognising that the sector has matured and many cyber resilience activities are becoming business-as-usual.

7.57 We will further develop these proposals in collaboration with stakeholders as we progress through the methodology phase.

### Rationale for our decision

7.58 We received positive feedback for our proposals in our Consultation. Our proposals will align cyber security measures for DNOs with those operating the electricity transmission and gas networks, while reducing the administrative burden on network companies and promoting efficient delivery.

## **Supply chain and workforce resilience**

7.59 In our Framework Consultation we emphasised that rapid electrification of heat, transport, and industry during and beyond ED3 will require network companies to minimise delivery risks through robust supply chain and workforce planning.

7.60 We acknowledged some early signs of delivery challenges that companies are experiencing with their supply chains and workforce. We referenced the measures taken in RIIO-ED2, namely a £360.4 million allowance for operational training and the introduction of workforce strategies and noted that we expect the price

control sufficiently encourages companies to manage their supply chains for efficient delivery of projects. We welcomed views on whether these measures were adequate to tackle the challenges that may be faced in the ED3 period. We mentioned additional measures that could be explored, such as the Advanced Procurement Mechanism (APM) that has been developed for the electricity transmission sector, promoting greater industry collaboration on traineeship programmes, and standardisation of qualifications and workforce outputs.

- 7.61 Our Framework Consultation invited stakeholders to submit evidence of specific issues faced by network companies and to suggest measures that could be implemented through the regulatory framework to address these challenges. We sought opinions on whether a more proactive approach to network investment could create risks or opportunities in managing supply chain and workforce constraints. Additionally, we asked for feedback on the potential benefits of adopting a geographical approach to efficiently and swiftly deliver new and upgraded assets.

### Stakeholder views

- 7.62 Respondents highlighted a growing skills gap and increased staff shortages, particularly among engineers, managerial staff, and multi-skilled craftspeople. One DNO noted that 30% of their workforce is over 50, necessitating policies to extend careers and ensure knowledge transfer. Companies mentioned that while they have successful apprenticeship programs, accommodating more trainees without impacting operational staff is challenging. Additionally, fewer individuals are pursuing STEM careers, especially in electricity networks and craft roles. Regional disparities in shortages were noted, with higher turnover rates in remote areas affected by severe weather. Increased competition for skilled workers was also cited, as workers with common skillsets are needed across transmission, rail, renewables, and supply chain businesses.
- 7.63 Several measures were proposed to address these workforce challenges. Respondents suggested workforce resilience strategies to encourage collaboration between companies on trainee programs, standardisation of qualifications, and a focus on developing existing employees while attracting new, diverse prospective employees. Multiskilling training, contingency planning, and backup resource pools were also recommended.
- 7.64 Responses emphasised the importance of apprenticeships and trainee programs, including graduate programs, experienced hires, and reskilling the existing workforce, particularly in smart and traditional network engineering. Building

capability ahead of need was proposed, with suggestions that the ED3 regulatory framework should enable investment in skills development. Leadership development was also highlighted to support the energy transition.

- 7.65 An early funding mechanism was suggested, calling for Ofgem to fund training facility enhancements and outreach activities for attracting, recruiting, and reskilling. More broadly, respondents proposed increased government support through policies on immigration, a government-led skills strategy (ie, the upcoming Industrial Strategy by the Department for Business and Trade), better utilisation of Skills England by the Department for Education to identify skill gaps and solutions, and the establishment of the Office for Clean Energy Jobs as announced in the Clean Power 2030 action plan. Collaboration with the government and devolved authorities on Local Skills Improvement Plans (LSIPs) was also advised, along with a wider clean energy jobs program to support energy efficiency retrofits for UK households. Reforming the Apprenticeship Levy into the Growth and Skills Levy was proposed to better support the skills needs of the green transition.
- 7.66 Responses said long lead times for transformers and GIS equipment are a concern, exacerbated by international competition and the need for downpayments to secure manufacturing slots. They said delivery lead times for critical high and extra-high voltage equipment reportedly increased between 2-3 times compared to pre-COVID levels, and that these timescales are just to receive assets; the networks then need to install them, facing an aging workforce, limited inflow of skilled labour, rising contractor labour rates, competition from other sectors, and decreased availability due to higher demand and localisation efforts.
- 7.67 DNOs added that prices for key plant and materials are surpassing what is covered by the RPE mechanism. Suppliers mentioned that manufacturing capacity needs certainty, but the 5-year price control is not conducive to this certainty, where DNOs opt for zero-commitment contracts and provide little visibility on required volumes. SF6 asset replacements were described as challenging, with costs up to 40% higher and lead times up to 12 months.
- 7.68 Several measures were proposed to address these supply chain challenges:
- Standardise and centralise procurement for clearer investor visibility and commitment;
  - Joint national or cross-regional tendering to boost buying power
  - Adopt an APM-like solution for low-risk investments;

- Issue projected equipment volumes with clear incentives or penalties to increase short and medium-term market confidence;
- Highlight the importance of long-term contracts and forecasts;
- Publish annual volumes early and provide sustainability roadmaps for manufacturers;
- Utilise demand-side flexibility to manage supply chain pressures;
- Develop domestic supply chains; and
- Revisit the RPE mechanism to ensure allowances reflect market price changes and increase funding certainty.

- 7.69 In response to our question on how a more proactive approach to network investment might create risks or opportunities for managing supply chain and workforce constraints, stakeholders indicated that greater visibility of strategic investments can foster a more agile workforce and supply chain, enhancing resilience and readiness for growth. A longer-term approach engages suppliers to secure capacity and mitigate bottlenecks. The regulatory framework could provide flexibility to unlock anticipatory investments, aligning capacity with project growth and skill needs.
- 7.70 Opportunities include workforce development through trainee programmes, early funding for critical roles, and supply chain collaboration with key suppliers. Risks involve misaligned investment due to changing forecasts, premature network expansion impacting consumer bills, dependencies creating bottlenecks, and simultaneous scaling up causing a supply chain crunch.
- 7.71 We received eight responses to our question on the benefits of a geographical approach to delivering new and upgraded assets quickly and efficiently. One network company noted already using Grid Supply Points as common denominators to create geographically concentrated work banks, maximising economies of scale within the supply chain and enhancing investment delivery confidence. This approach targets upgrades to key depots and offices, aligning investments with local needs. Regular reviews of regional demand can mitigate overinvestment risks. Contrarily, another company argued that primary reinforcement investments may not be geographically co-located, and secondary reinforcement should be demand-led.

#### Our response

- 7.72 Introducing long-term integrated network development plans based on independent tRESP pathways, alongside a higher ex ante investment baseline and a robust accountability framework, will boost confidence to the supply chains and enable better workforce planning. This increased visibility and investment

certainty should further support the development of UK-based equipment suppliers, in line with our growth duty.

- 7.73 We are not convinced on the need to extend the APM to the distribution network. The APM is a bespoke solution for issues in the electricity transmission network where project development phases are long. Transmission Operators (TOs) await project-specific cost assessment before reserving equipment, assessments are project-specific, and equipment delivery lead times are extended due to high global demand. The APM reduces the time between project development and financial approval by allowing TOs to place deposits with suppliers based on current project estimates.
- 7.74 In contrast, the electricity distribution network primarily involves low value, high-volume projects, with 60-70% of investment until 2050 projected for the low voltage network, which does not currently face significant supply chain constraints. Most projects are benchmarked for efficient unit cost to deliver along a net zero scenario or pathway, rather than being assessed individually. Funding is predominantly in the baseline, and in ED3 we don't expect this to change.
- 7.75 As in RIIO-3, we will require DNOs to submit supply chain strategies demonstrating their long-term ability to deliver work under ED3 and beyond. Here we will also aim to enhance visibility of the volume of work companies anticipate delivering, to enable suppliers to scale up production appropriately.
- 7.76 We will also support the government's wider efforts to alleviate workforce pressures and stimulate market confidence.
- 7.77 In our methodology phase, we will carefully consider whether there is a strong case for us to promote more proactive supply chain and workforce management by network companies, especially on account of the forthcoming Industrial Strategy by the Department for Business and Trade.

## 8. Cost assessment, RPEs and ongoing efficiency

### Chapter summary

We consider that the most appropriate way forward for cost assessment in ED3 is an evolution of the RIIO-ED2 framework. The analysis and use of a combination of historical and forecast expenditure will remain central to our ED3 cost assessment framework. We will consider whether the cost drivers we use and the methods of capturing the relationship between cost and cost drivers in RIIO-ED2 remain appropriate for ED3. We will consider alternative approaches to cost assessment, particularly of discrete and strategic projects that are not suited to traditional benchmarking approaches. We will consider how the tRESPs interacts with ED3 Business Plan development and cost assessment. We will review the RPE methodology for ED3. Our overall approach to ongoing efficiency will draw on established regulatory precedent from RIIO-3 and other sectors subject to economic regulation.

- 8.1 In the Framework Consultation we set out our current approach to cost assessment in RIIO-ED2. We asked stakeholders how our approach to cost assessment should evolve, in particular to enable us to better manage increasingly pronounced trade-offs between consumer protection, efficiency and investment in the distribution network. We also sought feedback on stakeholder priorities in relation to the ED3 RPEs and ongoing efficiency methodology.

### Stakeholder views

- 8.2 We received 14 stakeholder responses in relation to cost assessment. Stakeholders generally supported the RIIO-ED2 approach to cost assessment. Respondents suggested that a move to implementing an ex post cost assessment approach for any ED3 investments could be challenging. For example, due to creating additional uncertainty of how the assessment will be undertaken.
- 8.3 There was some support for considering a more inputs-based approach for specific LRE defined by the tRESPs (eg at extra high voltage). However, DNOs noted the trade-off between cost efficiency and delivery under an inputs-based approach that limits the ability of DNOs to find efficiencies driven by reprioritisation. They also suggested existing RIIO-ED2 tools like PCDs and volume drivers can help to accommodate a more inputs-based approach.
- 8.4 Stakeholders argued that we should place a lower reliance on historical cost data in ED3 if it is not able to capture future cost pressures such as climate change and net zero.

- 8.5 Stakeholder responses suggested that we need to consider what new cost drivers can help to capture step changes in expenditure. Stakeholders also pointed to the one-to-one relationship between a primary driver of investment and expenditure in reporting. They argued that more strategic investments in ED3 might result in multiple benefits, and this should be reflected in the cost assessment process.
- 8.6 Stakeholders requested more detail on the approaches to cost assessment of different types of expenditure. For example, the distinction between technical engineering assessment and benchmarking approaches.
- 8.7 Most stakeholders identified the development of common scenarios under the RESPs as being significant for ED3 cost assessment. Stakeholders argued that common scenarios can facilitate more consistent Business Plans and may remove the need for the demand post-modelling adjustment that we implemented in RIIO-ED2.
- 8.8 Most stakeholders suggested that we should reconsider the RPEs and ongoing efficiency methodologies for ED3. In relation to RPEs, stakeholders broadly supported the principle of providing an upfront RPE allowance based on forecasts of a basket of indices which should then adjust for outturns as they become available within the ED3 price control period. However, they suggested that the indices used in ED2 do not reflect the pressures that DNOs have faced in relation to changes in their supply chains, which have been relatively volatile. Therefore, they propose a more fundamental review of the basket of indices used and the cost categories in scope of the adjustment to better reflect outturn costs incurred by DNOs.
- 8.9 In relation to ongoing efficiency, stakeholders supported using evidence-based approaches drawing on traditional methods for evaluating productivity improvements in comparable sectors. They said that post-2008 evidence of lower productivity in the UK should be given more weight in this analysis and qualitative evidence of the impact of innovation and other factors should be given less weight.

### Our decision

- 8.10 Below we have set out the key issues for ED3 cost assessment and our initial views on how these should be taken forward under the ED3 framework, under six key themes:
- Evolving the RIIO-ED2 framework;
  - Historical cost vs forecast benchmarks;

- Cost drivers and multi-driver benefits of ED3 expenditure;
- Cost assessment methods per type of expenditure;
- Common tRESP pathway; and
- Real price effects and ongoing efficiency methodology.

#### *Evolving the RIIO-ED2 framework*

- 8.11 We consider that the most appropriate way forward for cost assessment in ED3 is an evolution of the RIIO-ED2 framework. This is needed to respond to the future challenges of ED3 as well as to simplify the process where possible.
- 8.12 However, we expect company plans to be more holistic and strategic in meeting longer-term requirements, particularly in relation to LRE. That can facilitate a more planned, inputs-based approach to deliver network investment in ED3. We expect that this could potentially create the need to change our cost assessment approaches in this area to respond to this change.

#### *Historical cost vs forecast benchmarks*

- 8.13 The analysis and use of a combination of historical and forecast expenditure will remain central to our ED3 cost assessment framework. We will use a range of modelling approaches to reduce the risk of error in our models.
- 8.14 We will consider the implications of the principle of “touching the network once” for cost assessment.
- 8.15 Historical data will continue to play an important role in our toolkit approach. Repeatable work where there is no or relatively small change to the scope of activity in ED3 is likely to continue to benefit from the use of historical evidence of efficiency.

#### *Cost drivers and multi-driver benefits of ED3 expenditure*

- 8.16 We will consider whether the cost drivers we use and the methods of capturing the relationship between cost and cost drivers in RIIO-ED2 remain appropriate for ED3. We will work with DNOs to identify areas where additional information or capturing of existing information differently can facilitate our cost assessment process.
- 8.17 We will review RIIO-ED2 regulatory reporting and identify interactions with Business Plan data tables (BPDTs) development to help respond to the data requirements of our ED3 cost assessment approach.

#### *Cost assessment methods per type of expenditure*

- 8.18 We will consider alternative approaches to cost assessment, particularly of discrete and strategic projects that are not suited to traditional benchmarking approaches, including new modelling approaches and technical assessment.

### *Common tRESP pathway*

- 8.19 We will continue to consider the progress of developing tRESPs and how this interacts with ED3 Business Plan development and cost assessment. In addition, we will further consider the practical implications of changes in our approach to cost assessment for certain LRE projects.

### *Real price effects and ongoing efficiency methodology*

- 8.20 We will review the RPEs methodology for ED3. This will focus on the activities delivered by DNOs and the indices available that capture their underlying inputs.
- 8.21 While we recognise the importance of cost reflectivity, one overarching principle is to maintain the exogeneity of the indices used. We want customers to pay only the efficient cost of any input price pressures.
- 8.22 Our overall approach to ongoing efficiency will draw on established regulatory precedent from RIIO-3 and other economic regulation sectors (eg the PR24 price review of the water sector in England and Wales).

### Rationale for our decision

#### *Evolving the RIIO-ED2 framework*

- 8.23 When preparing any cost assessment framework for a new price control, there is always a balance to be found between adapting to new challenges and opportunities and maintaining sufficient stability and predictability in the modelling approach. While the RIIO-ED2 framework represents a clear starting point, we are considering relevant developments since then, including the evolution of the wider RIIO-3 methodology (FSNR review, SSMD), development of RESPs, supply chain constraints and NIC recommendations.
- 8.24 Having assessed our RIIO-3 FSNR position and other developments, we consider that an evolution on the RIIO-ED2 framework to respond to the future challenges of ED3 and simplification where possible is the most appropriate way forward for cost assessment. However, we expect company plans to be more holistic and strategic in meeting longer-term requirements, particularly in relation to LRE. That can facilitate a more planned, inputs-based approach to deliver network investment in ED3. We expect that this could potentially create the need to change our cost assessment approaches in this area to respond to this change.

- 8.25 Our overarching objective is to have a defined scope of planned investments delivered by companies at efficient cost. This includes efficiencies of planning and delivery and excellence in procurement rather than efficiencies achieved by reprioritisation and deferral of network investment. Having deliverables associated with upfront allowances can enable us to track and hold DNOs to account, ensuring we have the right tools to protect customers from potential under-delivery.

### *Historical cost vs forecast benchmarks*

- 8.26 The appropriate balance between the use of historical and forecast data when setting efficient ED3 allowances will be a key decision for our cost assessment methodology. The ability of historical cost benchmarks to capture future efficient costs in ED3 was one of the key themes in responses. The analysis and use of a combination of historical and forecast expenditure will remain central to our ED3 cost assessment framework. We will use a range of modelling approaches to set efficient cost allowances.
- 8.27 We consider a higher reliance on forecasts and market data points is contingent on DNOs providing sufficient evidence that they are demonstrably efficient. The provision of allowances cannot simply be a pass-through mechanism of uncertain ED3 forecasts. Therefore, consistent with our RIIO-ET3 position in SSMD, we expect companies to take all reasonable measures to mitigate the cost pressures with the market. This includes providing reassurance of DNO procurement approaches and procurement data points (eg the market rates cost book).
- 8.28 In addition, we will consider the implications of the principle of “touching the network once” for cost assessment. A more significant upsizing of network assets upon replacement compared to historically will likely incur higher cost in ED3. Therefore, we will engage with DNOs to gain a better understanding of how to distinguish between the like-for-like asset replacement and increased capacity elements of their investments and assess the implications for the use of historical and forecast data.
- 8.29 While there will likely be a need for increases in expenditure for the sector (eg associated with load related expenditure), historical data will continue to play an important role in our toolkit approach. This data can capture efficient company delivery and outturn relationships between cost and cost drivers and avoids the risk of over-reliance on uncertain forecasts. It also reduces information asymmetry between us and DNOs on efficient delivery of their activities. The use of historical evidence will also depend on the degree to which expenditure

remains “business as usual” in ED3. Repeatable work where there is no or relatively small change to the scope of activity in ED3 is likely to continue to benefit from the use of historical evidence of efficiency as a key lever in our cost assessment toolkit. For example, some indirect costs and business support costs are not expected to be exposed to supply chain market forces.

### *Cost drivers and multi-driver benefits of ED3 expenditure*

- 8.30 We will consider whether the cost drivers we use and the methods of capturing the relationship between cost and cost drivers in RIIO-ED2 remain appropriate for ED3. We recognise the need to ensure our overall ED3 cost assessment approach captures the evolution of company activities. While our RIIO-ED2 modelling suite provides a strong foundation, alternative cost drivers might help us to improve the modelling approach by including more and / or better-specified models. We will work with DNOs to identify areas where additional information or capturing of existing information differently can facilitate our cost assessment process.
- 8.31 However, we are cognisant that it is essential to maintain the integrity of historical regulatory reporting. Effective cost assessment requires continuity of inputs and scope of activities over time to help build out a database of evidence on historical efficiency. Our aim will be to maintain that continuity while exploring what additional / alternative evidence can improve our toolkit approach and make it more fit for purpose for the unique ED3 cost assessment challenges. We will review RIIO-ED2 regulatory reporting and identify interactions with BPDTs development to help respond to the data requirements of our ED3 cost assessment approach.

### *Cost assessment methods per type of expenditure*

- 8.32 We will consider alternative approaches to cost assessment, particularly of discrete and strategic projects that are not suited to traditional benchmarking approaches, including new modelling approaches and technical assessment. These can complement the more traditional totex and disaggregated model assessment in RIIO-ED2.
- 8.33 We consider it is too early in the process to make a decision on the type of cost assessment approaches applicable to different types of expenditure. Our final decision on the assessment approach is likely to be informed by the nature of projects set out in DNO Business Plans. That decision will be informed by several factors, including the suitability of modelling, availability of data, comparability between companies, etc. In general, lumpier, more strategic investments with limited comparators are more likely to be subject to a technical assessment.

Therefore, to the extent that ED3 will include more strategic investment projects compared to historically, we are likely to use technical assessment approaches more extensively as part of our toolkit approach.

### *Common tRESP pathway*

- 8.34 The development of a common tRESP pathway to inform ED3 Business Plans will have important implications for ED3 cost assessment. It can lead to the development of a more consistent set of assumptions of network needs for all DNOs and by extension lead to more certainty when setting the key inputs to our cost assessment approach.
- 8.35 We agree with stakeholder views that the availability of common scenarios for the sector can facilitate a simplified cost assessment process in ED3. A common tRESP pathway defined ahead of the process can help to define regional network needs in DNO Business Plans and can potentially remove the need for us to intervene into company submissions. We will continue to consider the progress of developing tRESPs and how this interacts with ED3 Business Plan development. In addition, we will further consider the practical implications of applying alternative cost assessment approaches to LRE projects.

### *Real price effects and ongoing efficiency methodology*

- 8.36 We will consider the RPEs and ongoing efficiency methodologies for ED3, building on lessons learnt from RIIO-ED2, RIIO-3 and other sectors subject to economic regulation. This assessment is essential to supplement our cost assessment framework that focuses on benchmarking within the sector. It helps us to consider the impacts in the external environment including input price pressures and productivity improvements in the wider economy affecting efficient cost of delivery over time.
- 8.37 We will review the RPEs methodology for ED3. This will focus on the activities delivered by DNOs and the indices available that capture their underlying inputs. In RIIO-ED2 a negative adjustment was applied in year one to reflect the outturn movement of the RPE indices. However, the negative adjustment in year one of the RIIO-ED2 price control could be moderated later in the price control period. Therefore, we consider that it is too early to draw lessons from the ability of our methodology to effectively capture RIIO-ED2 input price pressures without considering further outturn data until 2028. We will also consider the implications and lessons learnt of our outturn position on RPEs for RIIO-3.

- 8.38 While we recognise the importance of cost reflectivity, one overarching principle is to maintain the exogeneity of the indices used. We want customers to pay only the efficient cost of any input price pressures. Stakeholder suggestions to base indices directly on the outturn costs DNOs face might result in inefficient costs being passed on to customers. However, we recognise that a better understanding of the movements in DNO input costs can help to identify a more comprehensive set of input price indices and support improvements in our RPEs methodology for ED3.
- 8.39 Our overall approach to ongoing efficiency will draw on established regulatory precedent from RIIO-3 and other economic regulation sectors. We consider that the application of an ongoing efficiency challenge is essential in the context of growing capacity in distribution networks towards net zero to drive value for money for customers. This applies efficiencies elsewhere in the economy that are not fully reflected in our cost assessment approach which is focussed on benchmarking DNOs against each other on a backward and forward-looking basis.

## 9. National Infrastructure Commission recommendations

### Chapter summary

The NIC published a report on the electricity distribution network in February 2025. This chapter sets out our response to the recommendations that are relevant to Ofgem. We will continue to monitor delivery of these recommendations as we move through the ED3 price control process.

### Background

- 9.1 In February 2025 the NIC<sup>18</sup> published a report on the electricity distribution network.<sup>19</sup> This was a result of the 2023 autumn statement where the government asked the NIC to provide recommendations on the policy decisions required to make the electricity distribution network fit for net zero.<sup>20</sup>
- 9.2 The NIC report set out 14 recommended actions for government, Ofgem and NESO. These recommendations were across digitalisation, standards, strategic planning, the price control, connections, planning reforms and skills and supply chain. Eleven of those recommendations are relevant to Ofgem.
- 9.3 Ofgem worked closely with the NIC while they were undertaking their review. We have already started to incorporate their findings into our policy direction and where applicable, this has been set out in this Framework Decision document. This chapter sets out our response to the NIC recommendations relevant to Ofgem.

### Ofgem response to NIC recommendations

- 9.4 In total, the NIC set out 14 recommendations, 11 of which were relevant to Ofgem. The following sets out the relevant recommendations and what our response is to those recommendations.

**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:**

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<sup>18</sup> 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.

<sup>19</sup> [Electricity-Distribution-Networks-report-21-Feb-2025.pdf](#)

<sup>20</sup> [Chancellor commissions study on electricity distribution networks - GOV.UK](#)

- **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 response

9.5 We support this recommendation and will continue to work closely with government and NESO on the delivery of the Low Carbon Flexibility Roadmap, which will include improvements to the smart meter roll out, the delivery of market-wide half hourly settlement, and actions to progress policy on smart heat mandates and asset visibility.

**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 response

9.6 Maintaining security of supply and ensuring the network is resilient to shocks and stresses is a fundamental aim of the networks. We agree with the recommendation for DNOs to identify 'no regrets' activities that would improve security of supply, and under the current price control we support the improvement of reliability through the Interruptions Incentive Scheme (IIS), the Worst Served Customers (WSC) funding stream and the Storm Arwen re-opener. In this decision we said we will maintain both the IIS and the WSC incentives but recognise the changing landscape we now face. We have therefore said we will look into any amendments that may be required to these aspects of the price

control. We will develop the details surrounding this further in the methodology phase.

- 9.7 We are considering the recommendation on the review of the security of supply standards and will engage with the UK government and DNOs to understand the work that would be required. We will update on the progress of this recommendation in our SSMC.

**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 response

- 9.8 We support this recommendation and have considered it while developing our RESP policy framework decision.<sup>21</sup> We will continue to work closely with NESO through the next stage of RESP development to ensure this recommendation is fully achieved. We consider the RESP policy framework sets out clarity on decision making responsibility.
- 9.9 Specifically, the RESP policy framework decision confirms the interaction between RESPs and network planning as well as confirming the governance arrangements for RESP development. For the interaction with network planning, the policy framework outlines that the RESP will have a direction-setting role in relation to network companies network planning. DNOs and gas distribution networks will be required to align their investment plans to the direction set by the RESP. They remain responsible for detailed network planning.
- 9.10 With regards to governance and decision making, the policy framework sets out that NESO will take on the accountability for strategic planning and be responsible for developing RESPs. For each RESP, there will be regional governance in the form of a Strategic Board comprised of local government, network companies and cross-sector representatives. The Strategic Board will provide steer throughout plan development and have a decision-making role to approve the RESP.
- 9.11 Ofgem will have approval of the RESP methodology and ensuring it aligns to the RESP policy framework.

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<sup>21</sup>[Regional Energy Strategic Plan policy framework decision | Ofgem](#)

**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 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 response

- 9.12 We support this recommendation and it is aligned with our RESP policy framework decision. We will continue to work closely with NESO through the next stage of RESP development to ensure this recommendation is achieved.
- 9.13 A key objective of RESPs is to ensure that local plans are integrated into energy system plans and to enable places to decarbonise at pace. In our RESP policy framework decision we affirm our position that NESO must ensure there are structured and accessible routes for local authorities to feed into RESP development and provide proportionate support to help local authorities engage with strategic energy planning. We agree that any decision on financial support is a matter for government and will continue to engage with them on the interactions between local authorities and RESPs.

**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**

- **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 response

- 9.14 We support this recommendation and have considered it while developing our RESP policy framework decision. We will continue to work closely with NESO through the next stage of RESP development to ensure this recommendation is achieved.
- 9.15 Our RESP policy framework sets out the key components that RESPs must include and key activities for delivery. We confirm that NESO must use a framework of data inputs that includes top-down data and bottom-up inputs. Our expectation is this should drive improvements in planning data, through enhanced consistency and transparency. We also confirm in our decision that they should develop an in-development register. Lastly, our expectation is for the publication to be accessible and easy to understand and published in an open data format.

**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 response

- 9.16 We support this recommendation. We expect the tRESPs to have a significant role in setting the strategic direction for network investment, not only for the ED3 period but also for the development of the DNOs' long-term integrated network development plans out to 2050.
- 9.17 The scope and timeline for delivery of the tRESP is therefore important to our ability to set the ED3 price control. That is why we recently wrote to NESO setting out our expectations for the scope of the tRESP and the approach to its development and governance.<sup>22</sup> NESO have issued an open letter in response,

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<sup>22</sup> Scope of the transitional Regional Energy Strategic Plan:  
<https://www.ofgem.gov.uk/publications/scope-transitional-regional-energy-strategic-plan>

confirming they will deliver the tRESP in line with the agreed scope and timelines and outlining the plan for the year ahead.

**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 response

- 9.18 We agree with the NIC and believe it is helpful to be clear about the main objective of the price control. As part of this Framework Decision, we have set out an overarching objective for ED3. This sits alongside four consumer outcomes which align with our CIF and net zero and growth duties (see executiveExecutive summary).
- 9.19 ED3 Objective: ED3 seeks 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.
- 9.20 Consumer outcomes:
- Networks for net zero;
  - Responsible and sustainable businesses;
  - Resilient networks; and
  - Smarter networks.
- 9.21 We consider this objective and the associated consumer outcomes clearly demonstrates our commitment that ED3 is an enabler of the energy transition, with inclusion of our broader duties (net zero and growth), and reference to customer service and network resilience.
- 9.22 Our consumer outcomes, focussing on resilience and responsible and sustainable business (which includes high quality customer service and connection outcomes) are all areas where we expect to focus, including on the role of new and existing incentives.

**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**
- **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 response

- 9.23 As set out in Chapter 3, we are minded to align with this recommendation and fund the majority of network investment ex ante. However, where there is significant uncertainty at the ex ante cost forecast, we will consider further whether some form of ex post assessment might be beneficial; though we expect any such approach would likely be limited to capital investments.
- 9.24 By setting the majority of the network investment before the price control begins, and 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 are however only at the early stage of developing the ED3 price control, but we will continue to take into account this recommendation as we progress through the price control process.
- 9.25 We have also set out in this Framework Decision the intention that DNOs will develop long-term integrated network development plans out to 2050, for each license area. This will require the DNOs to consider a range of investment drivers, covering load and non-load investments. Each time a DNO makes a single investment there is an opportunity to deliver multiple long-term benefits across different outcomes, including capacity created, asset health, environment and resilience. This approach will enable synergies to be identified between investment drivers and seek to ensure that all interventions are future proofed. This will enable a touch the network once approach, which will be in the long-term interests of consumers.

**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 response

9.26 We support the recommendation to accelerate no regrets activities, such as proactive unlooping and off-gas grid reinforcement. As set out in Chapter 4, we have set out our expectation that DNOs will take a more consistent, holistic and long-term approach to network planning. We will ask each DNO to prepare a long-term integrated network development plan, out to 2050 as part of their ED3 Business Plan submission. These plans will be updated periodically to reflect the latest RESP outputs and will form the basis of investment decisions within price control period, but importantly will also enable delivery programmes for activities such as unlooping to be developed in the context of long-term (multi-price control) objectives.

**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**
- **developing common digitised connection documentation to be used across all network operators.**

Ofgem response

9.27 This recommendation is directly related to our end-to-end review of connections. The consultation on this closed in February 2025, with the non-confidential responses published in March. We are currently considering the responses to this consultation, and the review is still in progress. However, as we have signalled above in this Framework Decision document (Chapter 5), enabling connections is a key component of ED3.

9.28 The outcome of the end-to-end connections review will directly feed into the price control setting process. We expect this will result in introducing new minimum standards, which would align with this recommendation. The details of this will be developed further as we move through the review and the ED3 methodology phase.

**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**
- **offer appropriate rewards for high performance, as well as penalties for poor performance.**

#### Ofgem response

9.29 As set out in our response to recommendation 11, we are currently in the process of carrying out the end-to-end review, which directly relates to these recommendations. However, as we have signalled in this Framework Decision document (Chapter 5), we expect we will introduce changes to the incentives for major connections, which would align with this recommendation. The details of this will be developed further as we move through the review and the ED3 methodology phase.

#### **Ongoing delivery of the NIC recommendations**

- 9.30 As we move through the price control process, we will continue to monitor and report on the delivery of these recommendations set out by the NIC review. We will next provide an update in the SSMC, due in summer of this year.
- 9.31 We will continue to work closely with government, NESO and now NISTA as we set the price control for ED3.

## Appendices

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## Appendix 1 - Approach to impact assessment

### Objective

- A1.1 The objective of the impact assessment is to compare the proposed regulatory framework for ED3 with other potential frameworks, using the archetypes described in Section 5 of the ED3 Framework Consultation and assessment criteria that reflect the ED3 consumer outcomes.

### Context

- A1.2 The Framework Consultation set out our rationale for considering changes to the regulatory model and sought feedback on various aspects of the framework. We said that while the RIIO model has served electricity distribution consumers well since 2015, given the drivers for change, it was appropriate to explore whether the existing regulatory model is fit for purpose or needed to evolve further for ED3.
- A1.3 We explained the key differences between the context at electricity transmission and distribution and why replicating the approach that we have taken at RIIO-ET3 may not necessarily be appropriate for ED3. We also set out some key factors that we felt important to take into consideration when looking at alternative regulatory models, including the development of strategic energy planning at the regional level, which we said was likely to develop significantly during the period to 2033 and would have a material impact on the regulatory framework.
- A1.4 We suggested that in the context of developments in strategic energy planning, the delivery of outputs against the clearer inputs that are expected to arise from those plans was vital. A robust incentive and control framework would be needed to ensure that these outputs are met. We proposed that taking a longer-term approach to network planning and investment had several benefits, including enabling the DNOs to establish longer-term order books with the supply chain, helping to manage deliverability risks.
- A1.5 We explained our view that while protecting against under-delivery was important, adaptability was also key for the electricity distribution framework. We sought views on how to incorporate adaptive mechanisms within an overall planned approach, including the potential use of volume drivers and other forms of uncertainty mechanisms. We also considered the need for mechanisms within the framework that allow for changes to RESPs outputs within the period and specifically the role of reopeners in managing this uncertainty.

- A1.6 We noted our interest in considering a more holistic approach to network investment planning across several investment drivers (eg load, asset health and climate resilience). We also raised questions around the timing of cost assessment and whether a move to ex post regulation might be appropriate under some circumstances, for example where there might be insufficient ex ante cost certainty.
- A1.7 We also said that we were interested in exploring the ongoing role of efficiency incentives, in particular the TIM, in driving unit cost efficiency in delivery while ensuring that this does not inadvertently incentivise companies to underspend against capital investment targets.
- A1.8 We explained that while a more input-based form of regulation might be appropriate for those parts of the price control that relate to network investment, we expected outputs and incentives to continue to remain central to the wider framework.
- A1.9 On the timing of allowances, we said that we were interested in exploring the role for ex post or pass through mechanisms under some circumstances, though we also noted potential risks and inefficiencies of this approach.

### Regulatory archetypes

- A1.10 We presented three regulatory archetypes for consideration, consistent with the approach that we took when considering the framework for RIIO-3 at FSNR.<sup>23</sup> The regulatory archetypes were characterised as follows:
- Plan and deliver: where regulation is a mechanism for implementing investments consistent with the longer-term strategic planning of the system.
  - Incentive regulation: where regulation is used to provide incentives to network companies to deliver against pre-specified output requirements at low cost and high quality, with rewards and/or penalties set against specified targets.
  - Freedom and accountability: similar to 'ex post' regulation, where regulation is focused on ensuring that network companies are meeting broad objectives, with incentives focused on overall delivery.
- A1.11 We described these archetypes with reference to four regulatory dimensions that we consider to be most relevant to meeting the consumer outcomes in ED3. Each is further defined below:

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<sup>23</sup> [Decision on frameworks for future systems and network regulation | Ofgem](#)

- **Spend fungibility:** The totex framework provides an agreed amount of allowances (typically ex ante) that can be recovered from consumers. The use of totex is designed to incentivise efficiency and innovation across the activities in the price control with cost savings shared with consumers through the TIM. However, without appropriate controls around the delivery of consumer-focused outputs, such a model could also have unintended consequences. For example, this approach could have the effect of incentivising companies to maximise short-term efficiency, delivering the minimum required to meet outputs over the length of the specific price control period. As a result, it could potentially lead to underinvestment, which is not in consumers' interests in a situation where a significant expansion of network infrastructure is needed to support the net zero transition. Baseline totex (fixed allowances) under RIIO-ED2 represent around 75% of allowances, with the remainder (variable allowances) being linked directly to delivered work through volume drivers.
- **Outputs and incentives:** a fundamental lever to drive efficiency and innovation in the achievement of consumer and system outcomes. This seeks to align consumer value and shareholder value, such as via financial and reputational incentives. Our ability to effectively define and monitor the outcome is a critical success factor, as is managing any tension between short-term and long-term outcomes.
- **Ex ante allowances:** the extent to which allowances are determined and agreed at the outset rather than during or after the control period. Ex ante allowances provide certainty for companies. This can help to keep the cost of capital low and support more structured and efficient delivery partnerships with the supply chain. In the future, such certainty may be helpful in mitigating supply chain and workforce challenges. The ex ante approach seeks to encourage spend efficiency through the ability of the company to benefit from outperformance against efficiency assumptions. These efficiencies can then be shared with the consumer during ED3 and future periods. Ex ante allowances, coupled with a TIM, also provides a level of risk protection for companies where there is overspend against the allowance. As with output incentives, the effectiveness of ex ante cost incentives will depend on our ability to effectively identify efficient costs ex ante, given information asymmetry and also given that cost drivers are likely to change during ED3.
- **Inputs:** the extent to which the regulator is prescriptive about certain minimum requirements, deliverables or types of solutions that it considers

critical to achieving an output. This could reduce some gaming or underspend risk, but, unless carefully designed, could also dilute the power of incentives, especially around efficiency and innovation, and potentially introduce ambiguity around a company's responsibility for discharging its duties, such as in relation to security of supply. Such approaches are potentially resource intensive for the regulator, but could be adapted to the electricity distribution context: for example through the use of some input assumptions and guiderails around aspects of the load package, based on clear principles and rules.

- A1.12 We represented the existing RIIO-ED2 and RIIO-ET3 frameworks (both versions of primarily incentive regulation) through these dimensions and noted that the RIIO-ED2 framework was considered to be the counterfactual for the purposes of comparing any alternative models.
- A1.13 The different frameworks are represented in Figure 4 below, followed by a summary of how each is characterised against these four dimensions (Table 1). Incentive Regulation is represented by two models: one showing the version of incentive regulation currently in place for RIIO-ED2, which represents our counterfactual; the other showing the incentive regulation being developed for RIIO-ET3.
- A1.14 In practice the diagrams are oversimplified, but overall, these help to illustrate and compare the relative characteristics of each option and a potential spectrum of the forms of incentive regulation.

Figure 4: Regulatory Model Frameworks

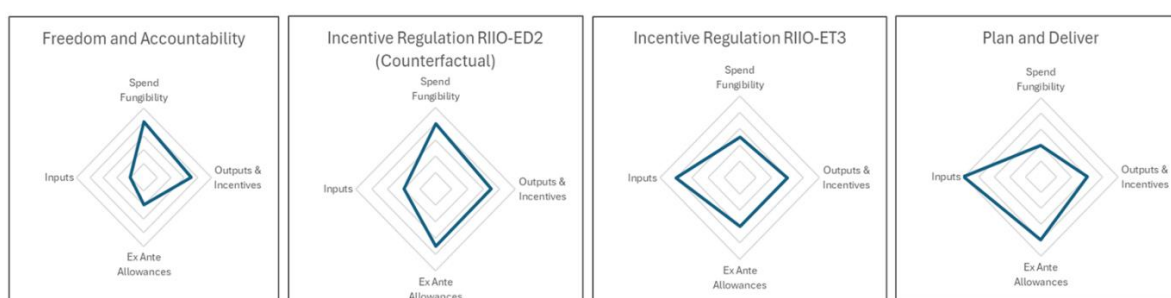


Table 1: Model Framework Dimensions

Dimensions	Freedom and accountability	Incentive regulation RIIO-ED2	Incentive regulation RIIO-ET3	Plan and deliver

Spend fungibility	High – networks have significant discretion over spending choices, if they meet performance targets	Medium-high – DNOs have flexibility to balance CAPEX and OPEX within an overall cost envelope	Low-medium - likely that large portion of allowances will be non-fungible between cost categories	Low – Spending is largely predefined by Ofgem approval, with limited scope for reallocating funds between activities
Use of outputs and incentives	Mixed – incentives drive delivery efficiency and service outcomes, but fewer prescriptive output definitions and very limited cost incentives	High (both outputs and incentives) – Ofgem defines target outcomes and provides financial incentives for efficiency and performance	Medium - increasing regulatory / NESO direction in terms of specific solutions, projects and deliverables	High (on outputs), Medium (on incentives) – Ofgem sets clear infrastructure and service delivery expectations, with less reliance on direct financial incentives for efficiency or performance
Ex ante allowances (vs ex post)	High ex post reliance – funding and performance adjustments occur after delivery, based on observed efficiency and outcomes	Mostly ex ante (some ex post adjustments) – most allowances are cost assessed and agreed ex ante, but with some ex post evaluation and uncertainty mechanisms in period	Mixed - large volume of allowances are cost assessed and agreed ex ante, but with some ex post evaluation and significant use of uncertainty mechanisms in period	High ex ante reliance – investment needs are determined and approved in advance, with minimal ex post adjustment
Degree of input prescription	Low – Ofgem provides broad targets but does not prescribe specific technologies or investment types	Low-medium – Ofgem sets expected outcomes but allows DNOs discretion in how they achieve them	Medium - many inputs with Ofgem (and NESO) becoming increasingly interventionist and specific about optimum solutions and deliverables	High – Ofgem (and NESO) specifies key projects, and expected solutions to meet policy goals

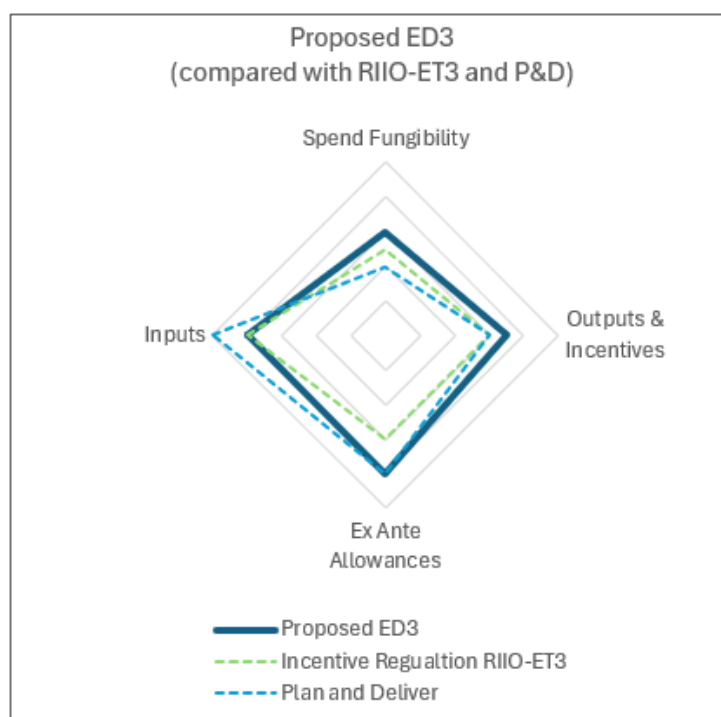
## **Proposed ED3 framework**

- A1.15 The proposed ED3 regulatory framework described in earlier parts of this decision takes characteristics from several archetypes. For network investments the proposed framework is most closely aligned with RIIO-ET3 and Plan and Deliver. For those parts of the price control that do not involve investments we plan to use an output and incentive framework that is closely aligned with the RIIO-ED2 counterfactual.
- A1.16 As we set out in Chapter 4 we will introduce a new requirement in ED3 for DNOs to produce integrated load / non-load network development plans out to 2050. DNOs will then present their ED3 five-year plans within this longer-term context, ensuring a lower whole-life cost in the long-term.
- A1.17 We will hold companies to account in the delivery of their ED3 investment plans at both the project (similar to RIIO-ET3) and aggregate (similar to a Plan and Deliver) level, with mechanisms proportionate to the size of project or programme, ensuring the overall delivery of the plans.
- A1.18 In delivering these plans, the proposed ED3 framework largely retains ex ante cost incentives to promote cost efficiency rather than moving to a 'pass through' of costs, but will also include a range of uncertainty mechanisms, including reopeners and potentially some ex post mechanisms, to manage uncertainty with reduced friction in period. We intend to retain a strong efficiency incentive to drive unit cost efficiency.
- A1.19 Outside of those areas of the price control that relate to network investment, the framework will build upon the strengths of the incentive regulation model, to drive innovation, efficiency and service quality, in support of the consumer outcomes that we have described.
- A1.20 Using the regulatory dimensions defined above, the proposed ED3 Framework is summarised below and represented in Figure 5 alongside RIIO-ET3 and the Plan and Deliver archetypes.
- A1.21 Spend fungibility: Relative to RIIO-ED2, our framework would impose additional limits and controls on how DNOs spend price control allowances in some areas. Allowances for investments associated with the DNO's strategic planning will be more closely tied to delivery of those plans: for example specific programmes or projects with output delivery metrics eg PCDs.
- A1.22 Outputs and incentives: Largely output-based regulation for non-capex areas, with strong incentives driving behaviours based on clear objectives and targets. In relation to capex planning and delivery, the potential for increased inputs in

some areas, leading to a more prescriptive approach. Potential for a more targeted use of TIM, focussed on unit cost efficiency.

- A1.23 Ex ante allowances: Similar to RIIO-ED2, where majority of allowances are cost assessed and agreed ex ante to support investment certainty but with some ex post evaluation and uncertainty mechanisms in period. The main difference will be that the framework is intended to reduce the scope of the incentives on DNOs to outperform against these ex ante allowances. The framework is not intended to reward DNOs for identifying ways to defer investment or reduce the scale of investment needed, even where that reduces costs in the ED3 period.
- A1.24 Inputs: Some inputs to ensure standardisation supported by RESP eg common approach to defining future system need and circumstances where strategic investment is required, closer to Plan and Deliver.

Figure 5: Proposed ED3 Framework



### **Assessment criteria**

- A1.25 We have defined four assessment criteria, shown in Table 2 below, against which we have compared the proposed ED3 framework with two alternative framework options (Freedom and Accountability and RIIO-ED2 counterfactual), using the key considerations described in the table.
- A1.26 These criteria link back to the ED3 consumer outcomes, and to Ofgem's Consumer Interest Framework, as shown in Table 3.

Table 2: Assessment Criteria

Criteria	Underlying Driver	Definition	Key considerations
Outcome delivery confidence	Investment certainty	The extent to which the framework ensures that necessary investments and network services are delivered on time, at the required quality, and in alignment with long-term objectives (eg, net zero, reliability, resilience)	How well does the regulatory archetype enable alignment with policy goals (eg, net zero, whole-system coordination)?  Does it ensure timely and coordinated investment, avoiding delays that could impact users, or jeopardise longer-term decarbonisation goals?
Efficient delivery (including innovation)	Delivery incentives	The ability of the regulatory model to drive cost-efficient investment and operational performance while encouraging innovative approaches (eg, demand-side solutions, digitalisation, new commercial models)	Does the archetype create strong cost efficiency incentives?  How well does it balance long-term efficiency (optimised investment) vs. short-term cost minimisation?  How well does it encourage the use, where more efficient, of system optimisation and non-traditional solutions, such as flexibility markets and digitalisation, over pure asset investment?
Adaptability	Flexibility to respond to changing needs	The extent to which the regulatory approach allows for changes in investment needs due to uncertainty, evolving technologies, and policy shifts while maintaining predictability and accountability	Can investments be revised in response to changing demand or technological progress?  Are there mechanisms to avoid over-investment in potentially stranded assets?  Does the archetype balance stability for investors with flexibility for emerging needs?
Supply chain confidence	Stability and predictability for suppliers	The ability of the regulatory model to support a stable, well-functioning supply chain for network investments, avoiding bottlenecks, underinvestment, or delivery risks	Does the approach create stable, long-term demand signals for suppliers and contractors?  Does it encourage efficient procurement and competition in the supply chain?  How well does it mitigate delivery risks, such as labour shortages or material cost inflation?

Table 3: Consumer outcomes and assessment criteria

<b>Consumer outcome</b>	<b>Consumer interest framework element</b>	<b>Assessment criteria</b>	<b>Rationale</b>
Networks for net zero	Low cost transition	Outcome delivery confidence Efficient delivery Supply chain confidence Adaptability	All criteria impact timely, efficient, and strategic investments for decarbonisation.
Responsible and sustainable businesses	Fair prices Quality and standards	Outcome delivery confidence Efficient delivery Supply chain confidence Adaptability	All criteria go towards ensuring value for money, long-term affordability, and financial resilience.
Resilient networks	Resilience Quality and standards	Outcome delivery confidence Efficient delivery Supply chain confidence	The criteria ensure that networks remain robust and well-managed over time.
Smarter networks	Fair prices Low-cost transition	Efficient delivery Adaptability	These criteria support digitalisation, flexibility, and innovation.

## Options assessment

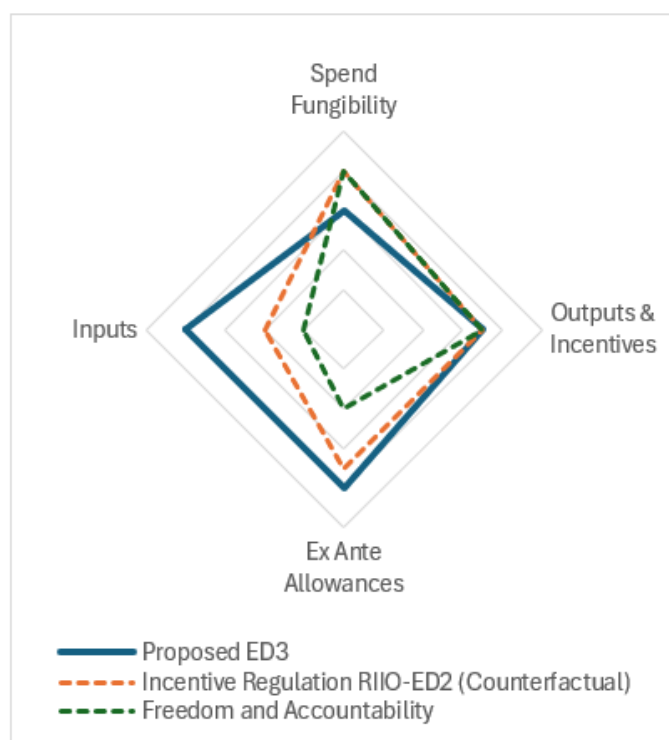
- A1.27 We first considered the “Plan and Deliver” and RIIO-ET3 options. Without further adjustment, we do not consider that those options are feasible for the ED3 period. To be effective, these options require a granular breakdown of the investments associated with delivering the independently determined strategic plans. In ED3, there may be some elements of the tRESP which provide sufficiently granular investment requirements. However, beyond some limited examples, we do not think that this project-by-project form of Plan and Deliver would be effective for ED3.
- A1.28 Our proposed option is intended to support the DNOs in achieving the benefits of strategic planning, while also recognising the greater disaggregation associated with the distribution networks, by comparison to transmission. This implies a sufficient level of adaptability and/or spend fungibility to ensure that evolving

customer needs are met by the networks. Our assessment is that the Plan and Deliver model and the RIIO-ET3 framework would not deliver this adaptability, and we have not considered them further.

A1.29 We have therefore compared in more depth the proposed option (ED3) with both the RIIO-ED2 counterfactual (Assessment 1) and the Freedom and Accountability (Assessment 2) using the four assessment criteria set out above.

A1.30 The three options are represented in Figure 6.

Figure 6: Comparison of regulatory models being assessed



### Assessment 1: Proposed option (ED3) vs counterfactual (evolved RIIO-ED2).

#### Outcome delivery and supply chain confidence

A1.31 The intention of the proposed option is to improve outcome delivery and supply chain confidence relative to the counterfactual. It will result in clarity at the time of ED3 determinations as to the plan that the DNOs will deliver over the 2028-33 period. Since DNOs will be held to account for delivery of that plan, the proposed option will give greater clarity than the RIIO-ED2 counterfactual that investments will be delivered. It will therefore also give greater confidence to

the supply chain that there is a funded and long-term plan to invest in the networks.

- A1.32 In this section we outline how we have estimated the expected scale of benefits from achieving that greater outcome delivery confidence.
- A1.33 First, we have assumed that a framework decision to require a plan consistent with a long-term net zero trajectory and to hold DNOs to account for delivering that plan would reduce the incentive to defer, delay or avoid network upgrades. In our view this assumption is consistent with the nature of the RIIO-ED2 framework. The use of totex benchmarking to set allowances and the use of the TIM to determine rewards are both intended to hold DNOs to account for cost minimisation, in addition to outcome delivery. DNO management are therefore incentivised to identify lower cost solutions during the period.
- A1.34 The CBAs provided by DNOs for network investments in RIIO-ED2 illustrate that they generally have a pay-off beyond the period. Shorter-term solutions will often be cheaper during the price control period. In a 'steady state' electricity system, shorter-term solutions may be temporary in nature and so could also be cheaper over the longer-term. However, as described in Chapter 2 and the NIC report, the size of the electricity distribution system is expected to increase sharply over the next 10 years. This means that many of these network investments will also be needed to meet increased demand in future periods. In the counterfactual, the whole sector will retain incentives to defer some of these investments, and this could increase the whole life cost of the system.
- A1.35 This greater certainty, both around the long-term direction of the plan itself and of the plan being delivered, would also improve supply chain confidence. Therefore, the wider objective of a network upgraded on time and at efficient cost would be better achieved by this option. Given that the purpose of a strong incentive regulation model such as RIIO-ED2 is to promote lower spend and share savings with consumers, we do not expect that rolling over the RIIO-ED2 framework would deliver the same outcome. On the basis of the NIC recommendations and Ofgem's own analysis, this would be likely to reduce the pace of local electrification, with a higher carbon cost and wider impacts on an effective and timely transition.
- A1.36 Measuring these benefits is difficult, as we cannot point directly to what level of investment might be deferred under the counterfactual or to the exact level of supply chain benefits. Instead, we have produced estimates to illustrate the overall scale. We consider the effect on whole-life costs in the next section. In

this section, we have considered a partial quantification of the benefits through the following:

- Estimating the potential savings from more effective supply chain procurement; and
- Estimating the benefits of avoiding deferral to the effective roll-out of local initiatives to move towards a net zero system, which will be an increasing risk if DNOs continue to have the incentive to defer investments until needed.

**A1.37** The results of the NIC review show that there will be a step change in investment needed by the mid-2030s. Across the 14 scenarios, investment generally needs to double or more by 2030, and then double or more again by 2035.<sup>24</sup> The scenarios also differ significantly, illustrating the range of uncertainty associated with any forecasts created today.

**A1.38** The counterfactual model is less well set up to incentivise DNOs to define investment programmes to deliver changes of this size, as it would continue to reward DNOs that deferred this investment until just needed. Based on experience from electricity transmission and our assessment of supply chain and workforce constraints (see Chapter 7 of this decision), we are concerned that, if deferred, distribution investment could be subject to significant supply chain inflation, as well as challenges in achieving the sharp ramp-up in investment then required in the early 2030s.

**A1.39** For example, the NIC's projections indicate load-related investment costs for the ED3 period in the order of £1.5-2bn per year across most scenarios (additional to investment required as a result of ageing existing infrastructure), around £7.5-£10bn for the period as a whole. Recent estimates of supply chain inflation in transmission suggest significant additional costs for those transmission operators that did not get in early and reserve capacity, for example cabling prices that nearly doubled 2019-2024 and power transformers prices that increased around 75% in that period.<sup>25</sup>

**A1.40** If similar levels of inflation were experienced across key areas of distribution investment, costs could in theory rise sharply. For illustration, if the incremental investments above RIIO-ED2 levels of around £1 billion per annum were delayed by three years on average in a 'just-in-time' model, this could increase consumer costs in today's money by £2 billion if the DNOs face comparable

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<sup>24</sup> See Table 6 of [National Modelling of Electricity Distribution Network Capacity Analysis](#).

<sup>25</sup> [International Energy Agency report](#)

annualised input cost inflation. Whilst we do not expect the same scale of cost pressure in distribution, costs may still rise materially from today's levels due to higher demand. Our experience from transmission is that effective planning and procurement, and the additional confidence this provides to supply chains, will put the DNOs in a better position to offset that cost inflation. In helping investment to occur on time, the proposed model will also help avoid knock-on cost and capacity pressures in supply chains in subsequent price control periods, where investment volumes would otherwise need to increase to offset under-delivery in ED3.

- A1.41 In addition, if delays in load related investment result in delays to the delivery of the local elements of electrification, this could come at a significant cost in terms of additional greenhouse gas (GHG), system costs and wider effect on economic growth. Based on the UK's most recent Future Energy Scenarios, we expect around 2 million new Electric Vehicles (EVs) and around 1 million new Heat Pumps per annum in the early 2030s,<sup>26</sup> as well as new solar PV at distributional level – technologies that will be crucial to the overall emissions reduction and total system cost savings anticipated.
- A1.42 For the purpose of illustrating the potential scale of benefits, we focus on GHG costs to be conservative, where an emissions reduction of around 40 Mt CO<sub>2</sub>e is needed in road and rail transport and 80 Mt CO<sub>2</sub>e in residential and service heat over the first half of the 2030s on the path towards net zero.<sup>27</sup> It is difficult to assess how much of the required roll-out of EVs and heat pumps could be delayed, particularly given the Zero Emission Vehicle (ZEV) mandate, and electric technologies are not the only way to reduce emissions in these sectors. While not all of these reductions would be lost if DNOs were to start from a 'just-in-time' model, we expect that a delay of at least one-year is a reasonable indication of the potential delays that might occur to the delivery of low carbon technologies if the rollout of distribution network is delayed. This has the potential to impact some 20 Mt CO<sub>2</sub>e of the total abatement needed during the ED3 period, equivalent to around £5bn of GHG savings over the 5 years.
- A1.43 Although the size of risk is inherently uncertain, our view is that the ED3 framework will have the direct effect of reducing consumers' exposure to this risk, in particular in scenarios where investment ends up being higher than

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<sup>26</sup> [Future Energy Scenarios \(FES\) | National Energy System Operator](#) (2024)

<sup>27</sup> [Future Energy Scenarios \(FES\) | National Energy System Operator](#) (2024)

expected, or supply chain pressures are higher than expected. We therefore consider that there is a potentially large benefit from the proposed option in reducing this risk.

### Cost efficiency:

- A1.44 We have considered a number of efficiency effects of moving to the proposed ED3 framework. In the proposed ED3 framework, there are a number of reasons why costs might be higher, as well as reasons why costs might be lower, considered below. Taken together, we do not conclude that there is compelling evidence that net costs to consumers will be materially higher or lower than the counterfactual framework. The greatest risk of net cost increases is likely to be from a higher present value from bringing investments forward.
- A1.45 In terms of potential increases in costs, we have considered two mechanisms;
- First, investment will take place sooner than in a 'just in time' model, with higher present value costs
  - Second, stronger requirements to deliver against the agreed plan will mean that there is reduced ability and incentive to identify positive mix efficiencies (eg flex or cheaper solutions).
- A1.46 In terms of acceleration of investment, as described above, NIC modelling suggests that load-related investment consistent with a longer-term strategic plan might need to be £1.5-2bn per year over the ED3 period in most scenarios. As investment is only around £0.75bn per annum at present,<sup>28</sup> it is likely to need to double or more to reach the required levels. If in the counterfactual, all of this differential – around £4bn-£6bn over the five-year ED3 period – were deferred by an assumed three years until the peak demand arises in the 2030s, this could reduce the present value of those costs by up to £400 million.<sup>29</sup> Whether the net costs were this high would depend on whether these assets helped to reduce the wider costs of the distribution system during this period.
- A1.47 We expect any increase in costs from allowing DNOs less flexibility to optimise the mix of investment, we expect the effects to be smaller. Totex efficiencies in RIIO-ED1 were around 2%<sup>30</sup> of the total level of allowances and are likely to be similar or a little higher for RIIO-ED2.<sup>31</sup> If available efficiencies are similar in

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<sup>28</sup> [Electricity-Distribution-Networks-report-21-Feb-2025.pdf](#)

<sup>29</sup> Discount rate based on [The Green Book and accompanying guidance - GOV.UK](#)

<sup>30</sup> Based on [RIIO-1 Electricity Distribution Regulatory Performance Data File 2022-23.xlsx](#)

<sup>31</sup> Based on [RIIO-2-Regulatory-financial-performance-data-file-2023-24.xlsx](#)

RIIO-ED3, this would equate to potential of around £80-90m p.a. based on assumed underlying totex allowances of around £5 billion per year. However, we expect the size of efficiencies that relate specifically to mix (eg the use of alternatives to asset investment) to be smaller, as opportunities for flexibility will only apply to certain relevant parts of the network.

- A1.48 On the other hand, costs might be lower due to the efficiencies that can arise as a result of longer-term consistent planning. We consider, both the risk of inefficiencies where consumers 'pay twice' for deferred investments under the counterfactual model, and whether a more integrated and longer-term approach to load and non-load investment planning should identify synergies and delivery efficiencies. These are particularly difficult to measure. In terms of efficiencies from avoided duplication of investment ('touch-the-network-once') we note that the NIC study was not able to clearly identify the scale of benefits – with the longer horizon investment plans ultimately having similar benefits to the shorter-term plans. At a minimum however, we think this measure can only be positive for consumers: there is the option not the obligation to reduce whole life cost by a systematic long-term approach to investment.
- A1.49 In terms of the benefits of an integrated approach to investment planning and procurement, we would expect that there would be efficiencies relative to the counterfactual. These are additive to the avoided risks of exposure to wider supply chain inflation risks considered above, as they would apply regardless of external cost pressures. One way of looking at this is that more effective procurement should provide opportunities to improve efficiency over time, to offset any reduction in efficiency from reduced opportunities to change the mix between asset investments and other interventions. We would therefore expect that taken together, DNOs will still have opportunities to improve ongoing efficiency in line with past activity.

Adaptability:

- A1.50 A key driver for a more planned approach is to set out a five-year plan for investment and expect it to be delivered and therefore while the ED3 framework will provide adaptability and include uncertainty mechanisms, the proposed model gives less weight to being able to respond in period and to the benefits of a more fungible and adaptable framework such as the RIIO-ED2 counterfactual. In other words, 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.

- A1.51 We have considered the potential for adverse effects from this reduction in adaptability and conclude that the consequences have already been considered in the previous section: ie. that the primary concern is that reduced adaptability may result in higher costs. We have considered three mechanisms:
- First, that DNOs will not have the opportunity to adapt their mix of interventions away from asset investments towards alternative more flexible options. We considered this under 'Cost efficiency' above.
  - Second, that if external circumstances change, DNOs may be tied into a plan of investment which will not meet consumer needs during ED3 or beyond. Under our proposed framework, this risk would be managed through the design of the incentives and uncertainty mechanisms. We intend to provide DNOs with appropriate flexibility to manage their portfolio of investments to reflect changing system conditions.
  - Third, that DNOs may ultimately consider they are tied into 'too much investment' due to a need to deliver on plans identified in 2026 and reviewed by Ofgem in 2027 for the ED3 period to 2033. On balance, and having regard to the NIC analysis, we consider there is limited risk of stranded asset investments in the distribution system in ED3. The main risk would be investment ahead of need beyond ED3, which we have considered in the cost section above.

#### Assessment 1: Conclusion

- A1.52 Our assessment of the proposed framework is that it has the potential to bring significant benefits through reducing the risk of costly delays in the readiness of the distribution system. This in part reflects that there is uncertainty over the future pace of electrification. There are likely to be potential cost savings through more effective supply chain engagement, and certainly a reduction in the exposure of consumers to supply chain inflation.
- A1.53 The primary risk of higher costs is likely to be that consumers may pay for investments ahead of when needed. However, the risk of this is modest, and we would expect DNOs to focus on investments that may in any case provide some additional system benefits more quickly.
- A1.54 Overall we find that the expected benefits outweigh the expected costs, and therefore that our impact assessment supports the proposed ED3 framework.

## Assessment 2: Proposed option (ED3) vs “ED freedom and accountability (FA)”<sup>32</sup>

### Outcome delivery confidence and supply chain confidence:

- A1.55 If successfully implemented, an outcome of the ‘Freedom and Accountability’ (FA) model could be to provide confidence to DNOs and thereby to their supply chain that there is flexibility to invest in line with evolving priorities. The FA model is intended to ensure that DNOs have freedom to invest more if that is needed, and it removes all incentives to under-invest by applying a ‘rate of return’ approach of only rewarding actual spend. As such, the starting point for FA would be that, like the proposed approach, it would give greater outcome delivery confidence and supply chain confidence than in the counterfactual.
- A1.56 In designing the FA model, our intention would be to include mechanisms to hold DNOs to account for delivery. Nevertheless, it is inherent to the FA model that there would be some incremental risk of divergence from the plan relative to the proposed ED3 options. Compared to the counterfactual, we would not necessarily find that this risk would be to reduce the likelihood of investment. Under a rate of return model to rewarding investment, there would be some risk of ‘gold plating’ or ‘easier’ investments being favoured under the FA option. Overall we felt that this was fairly marginal.
- A1.57 Although we have not included it in this assessment, we also recognise the challenges of implementing two step changes in one review: both to change the way in which totex is remunerated, and also to find a way to incentivise DNOs within that different framework. The FA model is quite different to the traditional rate of return model as used in the US, as it combines weak cost incentives with strong delivery incentives. This would need careful design and such a change would itself bring risks of effectiveness.
- A1.58 In terms of supply chain confidence, we expect that the proposed ED3 model would provide a clearer pathway to the supply chain. The principles behind FA are that DNOs would get more freedom to adapt their plan during the period. We therefore conclude that the proposed model can be assumed to have the same benefits relative to the FA model as to the counterfactual.

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<sup>32</sup> Under Freedom and Accountability the DNOs are still accountable to deliver an agreed plan, but with rate of return regulation of the costs incurred to deliver the plan.

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### Cost efficiency:

- A1.59 It is highly likely that FA (fundamentally a rate of return model) would result in higher costs, as concluded in our FSNR decision.<sup>33</sup> We would only have the opportunity to use ex post mechanisms to penalise inefficient costs. Generally, such ex post adjustments are only applied in limited circumstances. This is in contrast to our proposed ED3 model which will include unit cost efficiency incentives, and which therefore means that the proposed ED3 framework would be positive in terms of efficiency when compared with FA. The level of this risk will depend on the extent to which competitive procurement is able to offset the risk of cost inflation. The kind of procurement in electricity distribution is often not 'one-off' in nature but for programmes of work. In that context, there is a significant risk of cost and scope inflation if contractors are aware that DNOs no longer face incentives to ensure cost efficiency.
- A1.60 The countervailing consideration to this is the extent to which FA avoids incentives for 'gaming', ie to obtain higher allowances through exploiting information asymmetry. While this is a notional risk across all price controls, it should be more limited in ED3 for costs due to the ability to benchmark, the use of actual and forecast data, and the intention to set delivery targets around volumes.
- A1.61 In addition to a risk of higher costs for new (load-related) investments, we also expect that the FA model would lead to higher costs for other areas, including non-load and indirect costs. This is because we would expect similar cost efficiency incentives to be applied to load and non-load. If incentive rates were different, it would create significant risks around cost allocation and shared activities. We therefore expect that an FA model would lead to cost pressures on non-load and indirect costs.

### Adaptability:

- A1.62 In principle the FA model is by design the most adaptable for the DNOs, as it puts the least constraints on DNO investments. It gives greatest flexibility to DNOs to determine both the portfolio of interventions and the timing of those interventions. There would be the weakest constraints on the DNOs adapting their plans to changing circumstances.

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<sup>33</sup> [Future Systems and Network Regulation Core Document](#)

A1.63 Nevertheless, in terms of the adaptability that is desirable during the ED3 period, we consider this is fairly marginal relative to the proposed ED3 framework. We already intend to have mechanisms to allow DNOs to adapt where it is in consumers' interests.

A1.64 As a result, while there will by design be some additional benefits from adaptability against changes that are not considered at the start of ED3 and build into such adjustment mechanisms, we expect the benefits to be fairly marginal.

### Assessment 2: Conclusion

A1.65 Overall, we found that on the basis of comparing a proposed ED3 model with an FA model, where both sought to hold DNOs to account for project delivery, that the proposed ED3 would overall better balance our objectives for the ED3 period. The FA model would introduce material cost efficiency risks, which would go beyond the load-related investments which are the focus of adapting ED3 from the counterfactual. These would outweigh any marginal improvements in adaptability or delivery risk. We therefore recommended the proposed ED3 model over the Freedom and Accountability (FA) model.

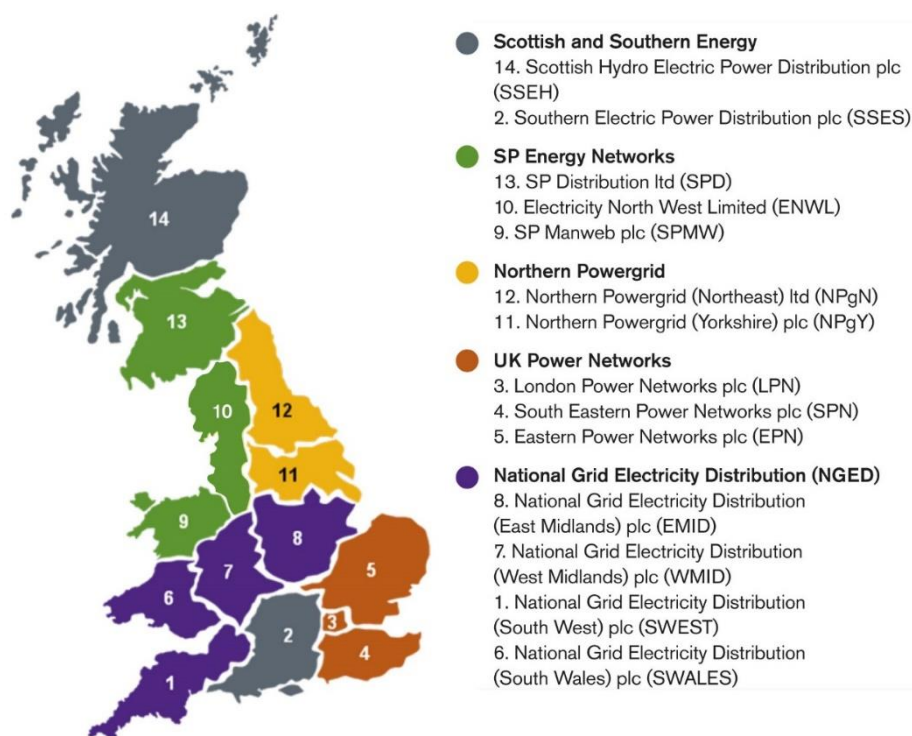
A1.66 We also note that the FA model, including delivery incentives, is relatively untested as an effective form of regulation. Had we found a net benefit from moving to the FA model, we would have needed to consider that benefit against any risks to the effectiveness of the model.

## Appendix 2 Background, process and working groups

### DNOs and price controls

- A2.1 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.
- A2.2 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 acquisition of Electricity North West Limited (ENWL) by Iberdrola has brought this licensee into the same group as Scottish Power Electricity Networks (SPEN), reducing the number of DNO group companies from six to five. The current structure is shown in Figure 7.

9.32 Figure 7: Great Britain's DNOs



- A2.3 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.

- A2.4 We have used the RIIO framework for the economic regulation of electricity distribution networks since 2015 as our approach to running the price control. RIIO involves setting baseline allowances to deliver core service and minimum standards and incentives to deliver innovation and outputs that consumers value.
- A2.5 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. The price controls for the electricity transmission, gas distribution and gas transmission sectors run two years ahead of electricity distribution, so their third RIIO period will start in April 2026.

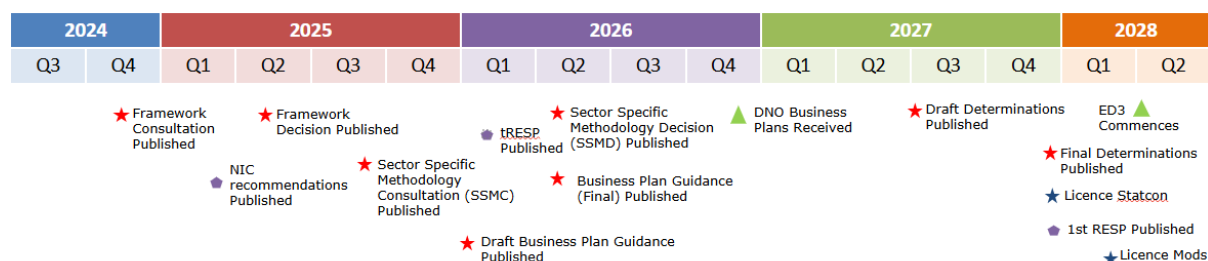
### **The ED3 Framework Consultation**

- A2.6 In November 2024, we issued a consultation on our approach to ED3. In this consultation we sought input from stakeholders on various aspects of the ED3 framework, including the overarching objectives, regulatory models, consumer outcomes and specific measures to address the upcoming challenges and opportunities in the electricity distribution sector.
- A2.7 In developing the consultation we used evidence we had considered in developing the framework for the RIIO-3 price controls for gas distribution and gas and electricity transmission.
- A2.8 We received 53 responses to our consultation. These are available on our website alongside this decision.
- A2.9 This document sets out our decision in the areas we consulted on, the reasons for that decision and a summary of the views of respondents.

### **ED3 timetable**

- A2.10 The ED3 Framework Consultation started the process for setting the ED3 price control. Having set out our overarching Framework Decisions we will now move to the development of the methodology we will use for the price control. This will inform the Business Plans we expect to receive from DNOs in 2026.

Figure 8: Indicative ED3 timetable and related milestones



## Working groups

- A2.11 We have held a number of working groups following the Framework Consultation and in the run-up to this Framework Decision. The aim of these working groups was to seek input from stakeholders on our thinking on key aspects of the Framework. As we move into the methodology phase of ED3 we intend to continue this proactive form of engagement.
- A2.12 We are proposing to initially set up 7 working groups. These will provide a forum for Ofgem, DNOs and other interested stakeholders to discuss the development of proposals for our ED3 methodology consultation. These working groups are advisory forums and will not be decision making bodies. They are also in addition to our formal consultation and wider stakeholder engagement for the ED3 programme.
- A2.13 Table 4 sets out the working groups, with an indication of the topics they will include which we intend to take through the next phase of ED3 development. We have also included the date for the first sessions of each group. We hope to hold some of these working groups in person. If in person, they will likely be held in London or Glasgow.

Table 3: Working groups

<b>Working group (and topics we propose to cover)</b>	<b>Date</b>
Overarching approach to setting ED3 (Managing uncertainty, accountability, Business Plan Incentive)	Wednesday 28 May
Networks for net zero - network planning and investment (Strategic planning, proactive investment, long-term programmes)	Wednesday 28 May
Responsible and sustainable businesses - customer service, vulnerability and environment (BMCS, stakeholder engagement, consumer vulnerability, environment, energy efficiency, connections)	Thursday 29 May
Smarter networks - system optimisation (DSO, digitalisation, flexibility, innovation)	Monday 9 June
Resilient networks - safety, resilience and reliability (NARM, cyber, climate, security of supply, IIS, supply chain and workforce)	Thursday 18 June
Cost assessment (Cost driver development, BPDT development process, Level of aggregation / cost pooling)	Wednesday 21 May
Regulatory finance	TBC – expected June

A2.14 The topics we propose to cover are not exhaustive, and we may determine that additional working groups are required. To be kept up to date with the working groups progress, or to express your interest in joining a working group please refer to our [engagement portal](#). To request access to the portal, please contact [ED3@ofgem.gov.uk](mailto:ED3@ofgem.gov.uk).

## General feedback

A2.15 We believe that consultation is at the heart of good policy development. We are keen to receive your comments about this report. We'd also like to get your answers to these questions:

## **Decision** – ED3 Framework Decision

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1. Do you have any comments about the overall quality of this document?
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. Are its conclusions balanced?
5. Did it make reasoned recommendations?
6. Any further comments.

A2.16 Please send any general feedback comments to [ED3@ofgem.gov.uk](mailto:ED3@ofgem.gov.uk).

## Appendix 3 Consultation questions

### Drivers for change

Q1. Do you agree with our characterisation of the wider context for ED3? Are there any other areas of context that you consider material for ED3?

### ED3 objective and consumer outcomes

Q2. What are your views on our overarching objective and proposed consumer outcomes?

### Regulatory framework

Q3. Do you agree that the network investment elements of the framework should be more input based?

Q4. Do you agree that we should consider introducing additional controls around network investments and what features should these controls contain?

Q5. Do you agree that the incentives on DNOs will need to adapt from RIIO-ED2 and if so, how?

Q6. Do you agree that there is still a role for re-openers in ED3, particularly given the timing of the future full RESP output and how should these be triggered?

Q7. Using RIIO-ED2 as the counterfactual, what alternative regulatory models or characteristics are needed in ED3 to ensure the DNOs deliver the above consumer outcomes? What are the trade-offs we should consider?

Q8. Do you agree that the regulatory framework for ED3 should have features of the Plan and Deliver model for network investment and Incentive Regulation model for other elements?

Q9. Do you think that there is a greater role for elements of ex post regulation or of cost pass through in ED3, either specifically in assessing cost changes resulting from changes to investment requirements during the period, or more broadly to reflect the changing context?

### Networks for net zero

Q10. What is the potential availability of network flex across GB for DNOs in the short-term and on the journey to net zero during ED3?

Q11. To what extent are global supply chain and workforce pressures contributing to longer lead times for delivery network reinforcement?

- Q12. Do you agree that the risk and downside for consumers of network underinvestment in network reinforcement would be greater than the downside of overinvestment?
- Q13. What are the benefits and risks to deliverability if network reinforcement is deferred to future periods?
- Q14. What do you see as the role of distributed flexibility, both in the short and longer-term, to manage distribution network constraints?
- Q15. How do we ensure that network flexibility is used only when it is in consumers' long-term interests in ED3?
- Q16. How are unexpected constraints dealt with currently? How quickly can these be eased, and what is the impact of these unexpected constraints (eg on LCT uptake)?
- Q17. Do you agree that the tRESP output outlined for early 2026 will help create a level playing field for DNOs' business planning and support the ED3 objective and consumer outcomes?
- Q18. Can anticipatory network reinforcement be used to smooth the long-term build profile to avoid creating pinch points for the supply chain and workforce? What are the risks and trade-offs?
- Q19. Do you agree that investment optioneering should aim to reduce the lifetime costs by sizing elements of works for long-term need, including considering the impact of thermal losses?
- Q20. Is a 5-year price control (2028-33) the right duration to achieve the objective of securing timely network capacity for the net zero transition at least cost to consumers over the long run?
- Q21. To what extent should the price control be more directive on specific anticipatory and strategic investments to achieve the 'networks for net zero' consumer outcome?
- Q22. Do you agree with our characterisation of strategic and anticipatory investment and our expectation that these activities would have different regulatory drivers and controls?
- Q23. Should the price control provide more guidance or guardrails around the use of particular network solutions to achieve the 'networks for net zero' consumer outcome?
- Q24. Should we consider how we might bring all network capex investment together within the framework, irrespective of driver (eg load, asset health, resilience), to ensure a common approach to future proofing and delivery?

## **Responsible business**

- Q25. How can we better strengthen accountability for consumer outcomes?

- Q26. What are your views on ED company reporting and the overall transparency of performance and compliance?
- Q27. Do you consider that ISGs alone are sufficient to ensure high quality and effective consumer and stakeholder engagement throughout the ED3 price control? What alternative or complementary approaches should we consider?
- Q28. Do you agree that Ofgem should adopt research approaches, such as deliberative techniques to ensure that the consumer voice is heard and considered throughout the ED3 and company Business Plan process?
- Q29. How should our approach to enhanced stakeholder engagement be adapted to better include the perspectives of all vulnerable customers, including those that are seldom heard, digitally disengaged/excluded and those that are worst served?
- Q30. What alternative or additional approaches might we use to ensure that the consumer voice remains central to our policy setting process?
- Q31. Has the BMCS incentive served its purpose in driving performance improvements and how can we adapt the metrics to better incentivise performance across a wider range of interactions between DNOs and their customers, particularly relating to connections?
- Q32. How should the CVI be adapted for ED3 and should we consider greater alignment with the GD sector?
- Q33. Should DNOs have a role in delivering energy efficiency measures to homes and businesses? What might the scope of these services be and how should they be funded?
- Q34. How can we drive further service improvements under the TTC incentive?
- Q35. Should the TTC also apply to domestic connection upgrades ie fuse/cutout/service cable upgrades, including unlooping?
- Q36. What is the best approach towards incentivising services to major connections customers and how should the MCI be adapted for ED3?
- Q37. How should the ED3 framework adapt to ensure that customers connecting to the distribution network are provided with the service that they need from the DNOs?
- Q38. In the context of greater electrification, is our current approach towards regulating reliability appropriate for ED3?
- Q39. What role should bespoke outputs and CVPs have in ED3?
- Q40. How can we optimise late and early competition models for application in electricity distribution?
- Q41. How should our approach to cost assessment evolve, to enable us to better manage increasingly pronounced trade-offs between consumer protection, efficiency and investment in the distribution network?

- Q42. How should our guidance for cost benefit analysis evolve to better enable optioneering between different interventions, taking relevant long-term risks and benefits into consideration?
- Q43. Do you agree that the current Real Price Effect (RPE) methodology should form the basis for adjusting allowances in ED3?
- Q44. Do you agree that the current approach to setting the ongoing efficiency challenge is a suitable starting point for ED3?
- Q45. Do you see any reason why we should not implement the proposed changes to the calculation allowed returns, consideration of investability and assessment of financeability that we set out in RIIO-3 Sector Specific Methodology Decision – Finance Annex for ET, GT and GD?
- Q46. Do you see any reason why we should not implement the proposed updates to financial resilience requirements that we set out in RIIO-3 Sector Specific Methodology Decision – Finance Annex for ET, GT and GD?
- Q47. What are the key factors (including benefits and costs to consumers) that Ofgem should take into consideration when conducting its review of the appropriate approach to regulatory depreciation in ED3 and beyond?

## **Smarter networks**

- Q48. How should the price control encourage ongoing development of the DSO role and activities to optimise whole system benefits for existing and future consumers?
- Q49. What should the role of the DSOs be in identifying and delivering whole system benefits?
- Q50. Our historic approach to publishing and sharing datasets has been stakeholder-led and focused on establishing good digital foundations in the DNOs. With the rapid pace needed for enhanced data and digitalisation, should we instead be considering incentives around strategic priorities, such as network planning, flexibility, and connections?
- Q51. How can we enable greater development of internal digital expertise in its licensees?
- Q52. How should network companies use AI to improve network insight and decision-making (both operating expenditure (opex) and capital expenditure (capex)) and how should we be encouraging this through the ED3 framework?
- Q53. Our aim is for the ED3 framework to be structured to deliver high impact, transformative innovation – do you think that further changes, alongside those proposed for the other sectors in our RIIO-3 SSMD, are required to deliver this?

Q54. Are there any factors particular to DNOs that facilitate or challenge deployment of innovation on their own and across networks?

## **Resilient and sustainable networks**

Q55. Do you agree that we should retain the Network Asset Risk Metric (NARM)? How should it further evolve in ED3?

Q56. Do you agree that we should consider a more integrated approach to managing asset health, together with load-driven expenditure, given the need to future proof for resilience (climate, cyber and physical security) and future demand? What might the risks and benefits of this approach be?

Q57. In the context of making anticipatory investment decisions, what do network companies and other stakeholders need to enable the planning and delivery of cost-effective network resilience measures against our changing climate? What risks and opportunities do you see linked to an input-based approach to these investment plans?

Q58. How should we monitor progress on the delivery of climate change resilience? Do you have any specific learnings which can help shape this?

Q59. Do you have any comments on the suitability of current incentives to ensure that consumers continue to receive a reliable service in the face of climate hazards?

Q60. Do stakeholders agree with retaining and strengthening the main components of the environmental framework from RIIO-ED2?

Q61. Do stakeholders agree with building on the approach taken to cyber resilience in RIIO-3 for ED3?

Q62. What specific issues are network companies facing in relation to the skills and capacity of their workforce and what measures should we take through the regulatory framework to mitigate these issues?

Q63. What specific issues are supply chains facing and what measures should we take through the regulatory framework to mitigate these issues?

Q64. Given our comments in Chapter 6 around taking a more proactive approach, are there any specific features of a more anticipatory or strategic investment approach that might create risks or opportunities for supply chain and workforce constraints?

Q65. What would the benefits be of a geographical approach to delivering new and upgraded assets in terms of supply chain and workforce constraints?