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Dear Steve and Akshay,

RIIO-ED3 | Framework Consultation

Decarbonising the power sector, and the wider economy, requires a wholesale transformation of the electricity networks. **Since ED2 commenced, Government policy is driving a much clearer medium and long-term trajectory of investment through Clean Power 2030** and our legally binding net zero targets by 2050. RIIO-ED2 will be the last price control that relies materially on reacting to uncertain and variable customer demand to drive investment in electricity distribution grids, with significant forecast growth in electricity usage in GB of c.50TWh by 2030. With only four price controls remaining before 2050, electricity networks must build and connect at scale and pace to avoid being a blocker to net zero and to support and promote economic growth. The regulatory framework at ED3 must support this ambition. In this response, we set out six pillars which outline the measures we believe Ofgem needs to take as part of ED3, and include in the Sector Specific Methodology Consultation (SSMC) for that ambition to ultimately be realised.

This exciting period of electrification will require long-term system planning (supported by Regional Energy System Plans 'RESPs') to inform and assure future strategic investment needs, with an opportunity to bring forward investment which prioritises highest customer-centric outcomes. **The ED3 period and beyond will be a period of accelerated decarbonisation of generation, transport and heat and customers' needs will evolve radically over this period.** Millions of low carbon technologies (LCTs) like electric vehicles, heat pumps and distributed generation will connect to distribution networks with LCT applications forecast to reach 55,000 per week by 2028 – a three-fold increase from its current level of 18,000, with additional and more substantive growth expected in the ED3 period. These technologies will change how customers interact with the energy system, creating new needs and requiring networks to respond accordingly. Our research shows that 68% of residential customers are adopting low energy technology or have strong intentions to do so. The same research shows that customer needs are focused on reliability, value for money, securing connections for low carbon technology and how to monetise the new technologies they install.

As more customers electrify, there will be an increasing focus on resilience to meet both higher customer expectations and a growing dependence on a single energy vector for the majority of customers' energy needs. There is a growing need to adapt and build for a changing climate to mitigate the impacts on network risk and performance for all customers whilst maintaining affordability. These considerations will create new areas of focus in the 2050 net-zero trajectory to ensure that investments are suitably forward-looking and mitigate long term climate and operability issues through singular interventions.

Whilst customers have and will always want a safe, reliable and resilient network, a growing proportion will

take new active roles interacting with the energy system enabled by distribution networks as they adopt LCTs. **A consumer centric approach focused on customer segmentation, new customer outcomes and a broader recognition of consumer value will be essential.** The regulatory architecture in ED3 should focus on unlocking that value through creating appropriate incentives for networks to respond and ensuring outputs and outcomes are delivered.

The volume of LCTs connected creates new opportunities and risks that DNOs will need to manage. System flexibility will remain a crucial enabler, allowing customers to connect at a time that suits them while network infrastructure is being built. This flexibility will also support an active renewable distribution system, facilitating timely investments, with digitalisation and Artificial Intelligence (AI) essential to managing flexible demand.

The portfolio and programmatic delivery of an electricity distribution network will continue to be very different from large scale discrete projects at transmission level. Distribution networks are characterised by a greater focus on incremental, programmatic investments and the management of multiple smaller, ongoing projects, often addressing diverse and regionally-specific needs such as local connections, network upgrades, or resilience improvements. We cannot lose focus on customer and stakeholder specifics and differences by region. **In particular, regional differentiation will be critical to a smooth and just transition.** Networks may legitimately move at a different pace, shaped and influenced by regional ambitions and RESPs, and prioritise different solutions to address their unique challenges (e.g. volume and type of new connections; current headroom; transmission level interaction; asset age, type and condition). Of increasing importance will be the focus on the long-term objective of achieving an inclusive and affordable just transition for all, recognising that the 5-year price control window represents a largely artificial construct within this longer-term journey. **The price control should be viewed as part of a long-term ecosystem, reinforcing Ofgem's duties to both current and future customers.** This requires a longer-term perspective that supports net zero, economic growth, balanced regional development and a financeable framework beyond a single price control cycle.

The scale and complexity of this transition will require even more focus on key enablers, particularly the labour market, supply chain and digital. We must alleviate constraints in the labour market and mitigate sector-wide attrition rates by investing in initiatives to train and upskill staff. With an average 2,200 new people per year needing to enter the electricity distribution workforce between 2024-2030 to meet the drive to net zero we need to go beyond current activities for traditional workforce renewal activities (e.g. apprentices and graduate training) to ensure continuity of our workforce. Regulatory certainty and forward visibility of investment will be imperative to secure the supply chain while minimising risk and cost volatility that can protect customers from uncontrollable risks. For digitalisation, we must rise to the challenge to scale digital capability to meet the increasing demands of data volume, velocity, and variety and the increasing need for real-time, data-driven decision-making across interconnected systems.

The scale of this transition must be grounded in the reality of forward-looking global capital market conditions, attracting new investors that can enable UK economic growth via the enabling role distribution networks play. Allowed returns need to be considered through a lens of attracting new debt and equity finance in a highly competitive international market for capital. We welcome steps Ofgem has taken in recognition of this in RIIO-T/GD 3 so far, with the introduction of the concept of investability and recognition of a suite of market cross checks; we agree that this is important to ensure we do not focus solely on traditional backward-looking methodologies. The right balance of returns on capital and speed of money will be critical considerations. It is important that Ofgem recognises the context of the RIIO-ED3 price control is one of significant change: the macro environment has moved to 'higher for longer' interest rates; there is fierce international competition for capital to deliver net zero and other global infrastructure projects; there is increasing scale of investment and new technology; and supply chain and labour constraints, all of which serve to increase risk for DNOs in ED3.

We have set out six pillars based on a longer term objective function, specific measures of success for RIIO-ED3 and key enablers, which underpin our consultation response. This includes the key developments within the ED3 framework, of which Ofgem should specifically consider in its SSMC which will help enable realisation of its stated ED3 ambition.

Six pillars to deliver a bold framework that meets the scale, pace and sophistication that distribution customers need in this phase of the energy transition

Pillar 1: A long-term strategic approach for electricity distribution (long term objective function)

Ofgem to endorse and networks should adopt a long-term view of network requirements over the next four price control cycles. The plan should be adaptable to, and shaped by, FES pathways and RESP outputs but should not be driven by them.

- **Overarching long-term certainty to support planning of, and investment in, networks fit for the future:** ED3 should be designed based on a long-term shared vision of system and network needs, which informs cost assessment (see pillar 2), the setting of allowances and evaluation of outputs (see pillar 3).
- **Responsiveness to changing requirements:** The framework should avoid being overly input-led or excessively prescriptive in defining outputs. Instead, it must be flexible enough to adapt to evolving inputs and requirements, leveraging scalable and adaptable mechanisms. We have proposed a hybrid approach with incentive regulation at the core and 'plan and deliver' for specific investments and believe this is best suited to manage the trade-offs between ensuring delivery of investment to support the transition to net zero on the one hand, and ensuring efficient investment and high service quality on the other. The approach should focus on achieving the desired outcomes rather than prescribing specific solutions as this approach better fosters innovation and the adoption of the latest technologies. It must recognise the diversity and regional differences between and within the DNOs, ensuring that local conditions and needs are accounted for within it.
- **A programmatic approach for minimal disruption:** The long-term plan should be supported by a programmatic approach, best suited to the characteristics of a distribution network, which is designed to enable a 'touch the network once' approach which is both efficient and minimises disruption to customers and society. This may require a different approach to allowance provision and benchmarking, possibly considering a longer-term benchmarking framework.
- **Acknowledgement of changing cost benchmarks:** Unit costs for building and upgrading the network will differ significantly moving forward, and these costs cannot rely on historical cost benchmarks within or between DNOs. Factors like climate resilience and smart automation and telecommunication technologies are expected to skew traditional cost benchmarking. The trajectory of asset costs, skilled labour availability, and new ways of working will further inhibit the ability to rely on historical cost data.
- **Careful consideration of the balance of ex ante and ex post approaches:** The portfolio and programmatic nature of electricity distribution delivery differs significantly from large-scale, discrete transmission projects. As a result, applying ex post approaches, including PCDs and ex post review, at the distribution level may prove more complex and challenging to implement effectively.

Pillar 2: Facilitate strategic investment ensuring network headroom and optionality is valued, supported by a different approach to cost benchmarking (RIIO-ED3 – Critical Success Factor)

Electricity distribution networks as an enabler, recognising the importance of supporting consumer choice as they engage in the transition. Building strategic investment and recognising the value of network headroom as a consumer valued output and in the cost benchmark and Totex allowance models.

- **Valuing network headroom as an output:** Ofgem should consider how it can recognise network headroom as a valuable output that supports wider system flexibility and enables future growth. The value should be informed by key considerations, such as balancing or trading off reduced network utilisation with reduced network losses as well as accounting for the broader system benefits, such as supporting diverse forms of generation and demand connections.
- **An approach that supports strategic network investment:** This requires a re-specification and weighting of the cost assessment models using a bespoke and engineered approach – not around individual schemes but instead a general philosophy for network development. There should be greater reliance on unit cost-based approaches (and potentially 'order book regulation' focused on good governance, sourcing and procurement practices).
- **Long-term multi-cycle benchmarking:** ED3 requires a different form of benchmarking that recognises networks may be at varying stages in their longer-term plans or journeys. Benchmarking should be done at the licensee level to ensure a more accurate and tailored assessment of each network's performance over time.
- **Innovative thinking in network planning:** Ofgem should consider how the framework must adapt to changes required to network planning models and standards as new technologies, such as energy storage, become integral to the system. This includes new thinking around ownership models and the management of energy storage assets in operating the network – whether through asset ownership or commercial models. Further thought will be required to develop the model to maximise the value delivered by these assets.

Pillar 3: Embrace a fully consumer centric approach which places consumer value at the heart of the control, recognising incentives as value adding, not simply a supplement to base returns (RIIO-ED3 – Critical Success Factor)

A regulatory framework centred around consumer value, with enhanced measurement of value in terms of outputs and outcomes.

- **Enhanced approach to measuring consumer value:** The framework should adopt a new approach to measuring value and outcomes for consumers, focusing on evaluating trade-offs and defining a clear consumer value metric (e.g. through our Consumer Value Framework outlined further in the 'CVF Annex'). This shift will enable the regulator and DNOs to better assess performance in relation to the consumer benefits delivered.
- **Incentive regulation as key enabler of the transition:** Incentive regulation must be at the heart of the ED3 framework, driving innovation and ensuring DNOs deliver service improvements that meet customers' evolving needs (e.g. evolving broad measures to include more customer segmentation, targeting worst served customers and addressing greatest level of interruptions as well as customers ready for LCT adoption etc.). Such an approach is deeply rooted in the principles of RIIO and utilises incentive based regulation to drive consumer value and enhanced consumer outcomes.
- **Consumer metric to complement RoRE:** The framework should deploy a consumer value metric to complement RoRE, recognising that performing networks may see higher RoRE, but only in a world where networks deliver consumer value multiples higher than this. This recalibrates and re-considers key incentives and ODIs in this light.

- **Expanded social role of networks:** The regulatory framework should consider the broader societal role of DNOs. This includes leveraging tools like the Priority Service Register (PSR) and exploring additional opportunities to deliver social value, such as through enhanced reliability. A social value perspective should be embedded throughout, ensuring that DNOs contribute to a more inclusive, equitable energy system that benefits all customers and communities.

Pillar 4: Support a system for the future, embracing flexibility, the evolution of the DSO and minimising long term costs (RIIO-ED3 – Critical Success Factor)

An approach that supports a smarter, more flexible energy system that benefits all customers and communities by enabling decarbonisation goals to be met faster and more cost-effectively.

- **Incentives to enable net zero:** DNOs and DSOs should be incentivised to act as enablers of the net zero transition. This includes exploring broader use cases for flexibility to reduce overall system costs and supporting the smooth delivery of strategic investment. Flexibility should be used to enable customers to connect to the network at a time that suits them whilst network infrastructure is being built. This will help create more opportunities for planned outages, improve network stability during unplanned outages, and where necessary allow for the deferral of network investment until there is a clear pathway to low-regret, cost-effective investments.
- **Long term cost minimisation to enhance affordability:** Supporting affordability through longer term, cost-effective investment programmes. This includes delivering real benefits to customers by enabling the connection of renewables and new energy technologies, while increasing price stability by reducing volatility caused by reliance on gas. Additionally, the approach should account for whole-life costs, including broader system costs such as network losses.

Pillar 5: Adopt a new approach to support and enable supply chain and skills challenges, recognising that ongoing efficiency and cost inflation are different in this 'new' world (Key Enabler)

A sector enabled to respond to the challenges ahead in terms of skills and supply chain.

- **Investment in skills and training:** The ED3 framework must recognise the critical need for upskilling across the sector, with targeted investment in training programmes. It is crucial to account for cost pressures beyond typical RPE-based approaches, which rely on economy-wide or sectoral exogenous indices. These indices must evolve to reflect the changes in the sector. Early action on skills development within the ED2 timeframe is vital to ensure the capacity and capability required for the transition are in place. Delaying skills development until ED3 would lead to a slow start for the programme.
- **Reconsidering historical approaches to efficiency:** Ongoing efficiency must be reconsidered in light of the absence of BAU repeatable activities. The introduction of new technologies, digitalisation and in the changing costs and nature of activities are all key factors in rethinking efficiency metrics.
- **Addressing supply chain challenges:** A clearer pipeline of work is needed to help manage supply chain pressures with confidence. This may require mechanisms like an Advance Procurement Mechanism (APM), tailored to the unique nature of distribution network investment and assets.

Pillar 6: Support attraction and retention of necessary finance, adopting a longer term financeability approach and a forward-looking real-world assessment (Key Enabler)

A regulatory approach which supports the attraction and retention of capital in the sector through credit strength, investability and a financeable price control.

- **Attracting debt and equity capital:** Allowed returns needs to be considered through a lens of attracting new debt and equity finance in a highly competitive international capital market. We welcome steps Ofgem has taken in recognition of this in RIIO- T3 and GD3 so far, with the introduction of the concept of 'investability'.
- **Forward-looking real-world approach:** We agree that a suite of market cross-checks is required when setting the cost of equity (CoE). This ensures that we do not focus solely on traditional, backward-looking methodologies, but instead, the approach reflects real-world investor considerations in the context of global competition for capital. An exclusive reliance on CAPM to determine returns would be at odds with international regimes we are competing with for capital, which weight results from various methods to ensure an appropriate return.
- **Maintaining a strong investment grade credit rating:** An investment grade credit rating of Baa1/BBB+ is essential to ensure strong access to debt capital, including at times of high market stress, and to ensure costs are kept low for consumers. This gains additional importance at this time of heightened investment to maintain strong financial resilience, and to send a positive signal to equity investors by maintaining credit worthiness.
- **Long-term financeability and consumer benefits:** The approach should recognise that consumer value is increasingly delivered through delivery of investment and be supported by an enduring approach to both financeability and investability.

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Our full RIIO-ED3 framework response consists of the following four sections which we hope are useful inputs at this stage of the RIIO-ED3 process:

- Cover letter and regulatory framework executive summary – providing our core messages;
- Annex 1 – Q&A response – providing our response to the specific consultation questions;
- Annex 2 – Our Customer Value Framework proposal - Embedding consumer value in RIIO-ED3;
- Annex 3 – Summary of Approach to Impact Assessment (IA) as part of RIIO-ED3

We welcome the early engagement from Ofgem on the development of the framework. We look forward to continuing to work with you as we all look to ensure RIIO-ED3 successfully delivers on a range of stakeholder requirements.

Yours sincerely,

Paul Branston
Director of Regulation
National Grid Electricity Distribution

Regulatory Framework Executive Summary

The ED3 period will mark a pivotal shift in how we plan and operate energy networks. We will move from an approach of ongoing network management with incremental expansion to one of significant growth, where investment needs are no longer uncertain. The key question will be the precise pathway and speed at which consumers adopt the transition. We now have a universality of stakeholder ambition to reach net zero by 2050 but only four price control periods to achieve this target. The ambitious goal of CP2030 will require advanced funding for ED3 even before it begins. Ofgem now has new duties related to net zero and growth, and all stakeholders must collaborate to ensure Britain's policy goals and ambitions are met. We are fully committed to playing our part in this transition and to help shape and lead thinking and support delivery.

Each licensed network may experience different pathways due to local and regional differences, as well as varying delivery models. This will require a new and transformative approach in many of the aspects of the RIIO framework. We set out our position here, focused on delivering for customers and the unlocking of consumer value through both our approach and through the regulatory framework.

Regulatory framework

We believe the archetypes set out by Ofgem in the ED3 Framework consultation, represent a useful lens for thinking through the regulatory framework. Ultimately a 'mix and match' approach may be appropriate – drawing on the best of each for the specific circumstances in ED3. This should be underpinned by an ex-ante, incentive-based methodology that is central to the RIIO framework, but further refined to support investment, innovation, delivery, and most importantly, positive consumer outcomes.

Recognising the specific characteristics of distribution and preserving the best of what we have

It is crucial that the regulatory framework for ED3 fully acknowledges the unique characteristics of electricity distribution at this critical juncture. Distribution is entering a phase of significant growth, with high volumes of activity, extensive geographic dispersion, and a diverse customer base.

Our customers have distinct needs and are at various stages of the transition journey in relation to adopting LCTs and energy storage solutions. The framework must be flexible enough to accommodate these challenges and opportunities. It is also important at distribution, when compared to transmission, that the appropriate level of spend fungibility, flexibility and responsiveness is provided for, as significant benefits can be derived for customers both in terms of identification and delivery of works. This approach aligns with our preferred strategy of 'touch the network once', focusing on long-term cost efficiency and minimising disruption to customers and society.

Embracing new approaches and addressing new challenges

We agree in principle that strategic load related investment should be subject to a different model to traditional incentive regulation, retaining the flexibility to determine the best long-term solution for customers. Load Related Expenditure (LRE) activities should be assessed separately from other costs, with investment needs informed through the RESP, solutions evaluated via robust CBA, and costs subject to benchmarking or technical assessment. However, fungibility of allowances should be maintained to enable optimal optioneering and solutions throughout the price control. To ensure consumer value remains the central

consideration, DNOs should be facilitated to consider load and non-load holistically to optimise customer service and cost. Any additional controls or ringfencing of specific funding should be implemented to encourage efficient delivery rather than hinder or impede it.

A framework that incentivises delivery and protects both customers and networks from risk

We agree it is vital that the framework at ED3 protects against under-delivery, and equally recognises that different networks and different licensees may adopt varying approaches to delivering the energy transition. We support a longer-term approach to network planning which recognises that ED3 is only a snapshot within a broader architecture to deliver net zero by 2050.

In relation to the question of the appropriate balance of ex-ante and ex-post regulation, we believe that an ex-ante approach, supplemented by uncertainty mechanisms, has in general served consumers well to date and there would need to be strong reasons to move away from this at electricity distribution. The portfolio and programmatic nature of electricity distribution delivery differs significantly from large-scale, discrete transmission projects. As a result, applying ex-post approaches at the distribution level may prove more complex and potentially counterproductive. The focus should be on delivery and incentivising performance, with other mechanisms, such as utilising ODIs or differentiated Regulatory Adjustment Mechanisms (RAMs) as already applies to LRE in ED2, helping to ensure consumer interests are protected.

One approach worthy of consideration would be a more tightly defined RAM around Totex or a subset of Totex. This could be complemented with potentially more highly powered ODIs with greater potential to unlock consumer value (see consumer value framework and responsible business sections below). This would build upon Ofgem's thinking as part of the RIIO-ET3 Sector Specific Methodology Decision (SSMD) for the potential application of differentiated RAMs.

The importance of a rigorously tested ED3 framework

Ofgem's approach to cost-benefit analysis in examining RIIO-ET3 archetypes, particularly in its decision on FSNR, serves as a useful model. We believe a similar approach should be applied for ED3, assessing the costs and benefits of flexibility, the consequences of delays, and the benefits of 'network readiness'. We would welcome the opportunity to engage with Ofgem prior to its final ED3 framework decision. Ofgem has suggested that in examining the ED3 framework that it will assess that proposed against the RIIO-2 counterfactual. We strongly urge that each decision is individually assessed against the potential options in that area, and that the framework as proposed is assessed as a whole. We have included an annex in relation to Impact Assessment (and we return to it again below) in relation to legitimacy and measurability of the crucial decisions which will be made as part of ED3, and we see considered assessment of the decisions and their effect to represent an important piece of the decision-making framework.

Networks for Net Zero

The next ED price control will be a critical period for delivering the infrastructure required to achieve the UK government's CP 2030 target and a net zero economy by 2050. ED3 and beyond will need to enable large-scale, strategic investment to ensure that the network is fit for future needs. This requires significant acceleration in the volume of LRE due to anticipated network operation above asset rating peak (absent investment, by 2035, 50% of the primary network and 20% of the secondary network).

Long-term investment plans responsive to changing requirements

Delivering networks fit for the future requires certainty and a long-term vision to guide investments over multiple regulatory periods. The ED3 framework must enable long-term investment planning (towards 2050), allowing networks to focus on longer term capacity needs, net zero targets, support climate resilience and not just near term risks or asset replacement.

As set out in Pillar 1 above, this long-term investment plan would be shaped and informed by FES pathways and RESP outputs but should not be driven by them. While the need for investment is clear with Government policy driving the trajectory of investment through Clean Power 2030, the ED3 framework must be adaptable enough to respond to these changing inputs (e.g. Government policy and NESO driven plans) and requirements through scalable and flexible mechanisms. This means avoiding overly prescriptive output definitions that limit innovation. It also means evolved approaches to cost assessment and how outputs are evaluated.

It is also important to recognise that DNOs are at different stages in their transition to net zero and will face unique challenges. The framework must allow flexibility for individual DNOs to plan, invest, and deploy solutions that suit their regional contexts, including ambitions, pace of transition, connection types, and network topography.

A long-term view of network requirements over the next four price controls will help to mitigate global supply chain disruptions, material shortages, and workforce pressures. Global supply chain challenges, including material shortages compounded by geopolitical disruptions, are leading to longer lead times for delivery of network reinforcement. Workforce pressures in the form of market constraints for specialised roles are further exacerbating the issue. Greater long-term surety on network reinforcement need is required to offer certainty to the supply chain and attract and retain skilled employees.

Strategic investment

Strategic investment will be essential in smoothing the long-term build profile of the electricity distribution network. While there is uncertainty in the exact timing of future demands, the risk to customers and to society of under-investment is now far more significant than the risk of over-investment.

We believe consideration needs to be given to the value of creating network headroom to accommodate future requirements and the secondary benefits on losses reductions. Ofgem should consider how it can recognise network headroom as a valuable output, which supports system flexibility and enables future growth. The value should be informed by key considerations, such as balancing reduced network utilisation with reduced network losses.

Programmatic approach

As outlined in Ofgem’s framework consultation, the challenge of meeting increasing peak demand on the electricity distribution networks will involve making hundreds of thousands of interventions to individual network assets.

A long-term investment plan should be underpinned by a programmatic approach designed to enable DNOs to ‘touch the network once’, driving efficiency and minimising disruption to consumers and society. This approach should focus on the sizing of assets for future needs and the impact of thermal losses, ensuring regulatory mechanisms such as NARM align with long-term objectives. This represents a shift from the ED2 focus on near-term risk reduction and like for like asset replacement.

This approach is particularly crucial for lower voltage networks, where programmes such as unlooping, addressing tapered mains, and improving edge-of-network performance can enhance resilience and reliability. These investments will help prepare the network for the large-scale adoption of LCTs and improve the customer experience, particularly for worst-served areas.

Role of flexibility

Flexibility plays an important role in delivering networks for net zero. The current ED2 process has primarily focused flexibility on deferring reinforcement. In ED3, flexibility will be a crucial enabler, allowing customers to connect at a time that suits them while network infrastructure is being built. It will also help create more opportunities for planned outages, providing a more stable network during these times, while still allowing for the deferral of network build investments until there is a clearer pathway for low-regret investment decisions.

ED3 needs a scalable whole system CBA framework that can accommodate the increasing complexity of whole system benefits and to value trade-offs, including flexibility services and connections, with dynamic solutions to address evolving network needs. This will incorporate RESP outputs for future capacity requirements, clear expectations for connection timings by customer segment, and obligations to manage variability. The outcome should be an optimised Load Related Expenditure (LRE) delivery plan balancing reinforcement and flexibility for cost-effective capacity delivery.

We believe there remains a need to recognise flexibility as a broader system management tool, given the increasing number of connected devices that can provide system-wide benefits. This is covered in the section on Smarter Networks. Building long term sustainable networks for the future, within a digital environment, is likely to require a fundamental rethink. Network planning approaches and network planning standards such as P2/7 were originally designed for a very different top-down thermal capacity radially driven system. It may also require a rethink and redeployment of storage as a network planning tool within the distribution system's toolbox, not simply a market flexibility perspective.

Benchmarking and allowance provision

A regulatory framework that supports strategic network investment and a programmatic approach requires a different approach to cost benchmarking and Totex allowance provision. It will therefore be important to consider and adopt a longer-term (i.e. a multi-cycle) benchmarking framework.

Unit costs for building and upgrading the network will change significantly in the coming years, making it untenable to rely on historical cost benchmarks. The increasing need for climate resilience and integration of smart automation and telecommunication technologies will skew traditional benchmarks. Furthermore, the rising cost of assets, availability of skilled labour, and new ways of working will further limit the effectiveness of historical cost comparisons.

DNOs are starting from different positions (demand profiles, generation patterns, network headroom and societal drivers) and face varying challenges in delivering the net zero mandate. While all DNOs must contribute to the transition, each will follow distinct pathways shaped by factors like network topography, the nature of local connections, and the pace of transition at the regional level. These variations mean that the traditional, one-size-fits-all approach to cost assessment and allowance allocation will no longer be sufficient.

Given these considerations, there is a clear need for longer-term, multi-cycle benchmarking that reflects the complexity of each DNO's network. This should be complemented by bespoke technical assessments at the programme level, which consider the unique challenges and circumstances of each DNO. Such an approach will ensure that costs are accurately assessed, and allowances are appropriately allocated. This will facilitate a more tailored and effective strategy for meeting the net-zero targets. This will require detailed development

ahead of SSMC and we would welcome the opportunity to engage further with Ofgem in this area.

Further details on how cost assessment should evolve, especially in the context of responsible business practices, are discussed in the Responsible Business section.

Role of NESO and tRESP

The introduction of NESO (National Energy System Operator) and RESPs (Regional Energy Strategic Plan) presents an opportunity for a different approach to Load Related Expenditure within ED3. However, their introduction combined with changing consumption behaviours has changed the nature of the risk to customers.

Load Related Expenditure (LRE) as an activity has a different risk profile to the rest of the price control allowances, given the asymmetric risk between over and under delivery and further compounded by changes driven by central government policy and legislative changes driven by NESO connections reform. For primary network investment, the previous incentive regime solely rewards reduced expenditure and does not focus sufficient reward on successful or timely delivery. The risk of unused or stranded assets is now outweighed by the detriment of delaying decarbonisation through electrification caused by insufficient network capacity being available at the right time.

We believe the regulatory framework for LRE should be redesigned to incentivise investment delivery. This delivery should be consistent with a strategic pathway driven by RESP and other NESO directives such as CP2030. There are different regulatory frameworks which could be utilised to manage a programme of investment which balance the need for delivery certainty with the flexibility to manage uncertainty during the ED3 period. We have outlined some of these opportunities in Box 1 below and would welcome the opportunity to work with Ofgem in developing its thinking in this area.

With greater strategic direction provided to DNOs on the pathway to a decarbonised future, we believe this can unlock access to a longer term LRE allowance that spans multiple price controls. A longer-term allowance can help to unlock opportunities for DNOs to deliver investment at pace, bolster supply chains and plan the workforce required to deliver on the RESP pathway. The length of the longer-term pathway could be aligned to the length of the RESP pathway (expected to be 10 years) or could introduce longer term signals which span to 2050.

We recognise that in providing a longer-term allowance for LRE, this will also need to be supported by increased transparency of investment plans and the decision-making framework followed by DNOs.

We are supportive of NESO's role to develop RESPs; however, there is uncertainty in their scope and the role they will play for RIIO-ED3 business planning and beyond. As part of the ED3 framework, it is important to set out the role that RESPs will play.

This needs to de-risk the concerns DNOs have on their ability to perform their regulatory obligations if NESO and Ofgem are making changes to allowances within price controls which could be triggered by changes in government policy.

This is particularly relevant in accommodating regional variations and adapting to evolving future trajectories. Given the significant fluctuations seen in FES pathways over short timeframes (for example, 60% variation in heat pump adoption by 2030 within a 2-year forecast horizon), flexibility will be key in enabling the tailored and efficient delivery of investment plans. This allows for more adaptive decision-making and ensures that DNOs can address the specific needs of their networks, without being locked into rigid frameworks.

Notwithstanding that Ofgem's framework decision on RESPs is yet to be published, we believe the tRESP can reduce uncertainty and subjectivity of planning inputs and it can help drive consistency in the

approaches taken by DNOs to develop their plans. However, it won't be available in time to form the basis of the ED3 load-related investment plan. We plan to use the DFES 2024 dataset for our load related plan, with tRESP incorporated later.

Additionally, whilst NESO should play a supportive role in the ED3 planning process, by providing a consistent and reliable methodology for assessing investments. It is also important to emphasise the need for flexibility in managing uncertainty during the ED3 period. This allows for more adaptive decision-making and ensures that DNOs can address the specific needs of their networks, without being locked into rigid frameworks.

Box 1: Consideration in relation to RESPs and 'Plan and Deliver'

RESP outputs will drive a different rate and pace of delivery of investment in ED3 and beyond. We consider that RESP-driven load investment will be sufficiently discrete that it should be treated differently in the RIIO framework. There is a need for a longer-term approach to assessing costs, providing allowances, and evaluating outputs, as opposed to the typical 5-year cycle. Key decisions remain on how this approach will function in practice, including whether it follows a 'Plan and Deliver' or a more 'Incentives Regulation' model.

One approach could be to separate out specific LRE investments from the broader totex framework, offering a dedicated funding stream with a longer-term horizon. This could follow a similar approach to the Iron Mains Replacement Programme implemented for gas distribution. This would provide greater funding certainty, enabling proactive planning and investment in network infrastructure, improved supply chain management, and workforce planning. However, this approach may reduce incentives for efficiency in delivery and would require clear criteria for how funding is accessed, to ensure the process is manageable and not overly restrictive.

Alternatively, another approach could be to retain specific LRE investments within the overall totex allowance, with the funding levels influenced by RESP outputs based on required capacity. The totex incentive mechanism (TIM) could be recalibrated to introduce tighter caps and collars, reflecting reduced uncertainty whilst ensuring that DNOs seek efficiencies in the delivery of necessary network upgrades. This could be complemented with new and powerful incentives to promote headroom and flexibility. A mechanism would also be needed to ensure that LRE allowances are cost-reflective, aligning the funding with actual costs and network needs.

We welcome further engagement from Ofgem on the approach.

Responsible Business

ED3 must be built on trust and a social and regulatory contract

We agree with Ofgem that it is vital that the social contract between networks and consumers is built on organisational legitimacy, credibility and trust. We are committed to driving high performance in relation to consumer protection, enhanced stakeholder engagement, long term value for money and cost assessment, responsible financing, reporting and accountability.

We particularly welcome the placing by Ofgem of consumer outcomes as central to the ED3 framework. We also welcome the signalled shift away from a focus purely on economic regulatory tools and traditional cost benefit methods to examine improvements which can be delivered for consumers:

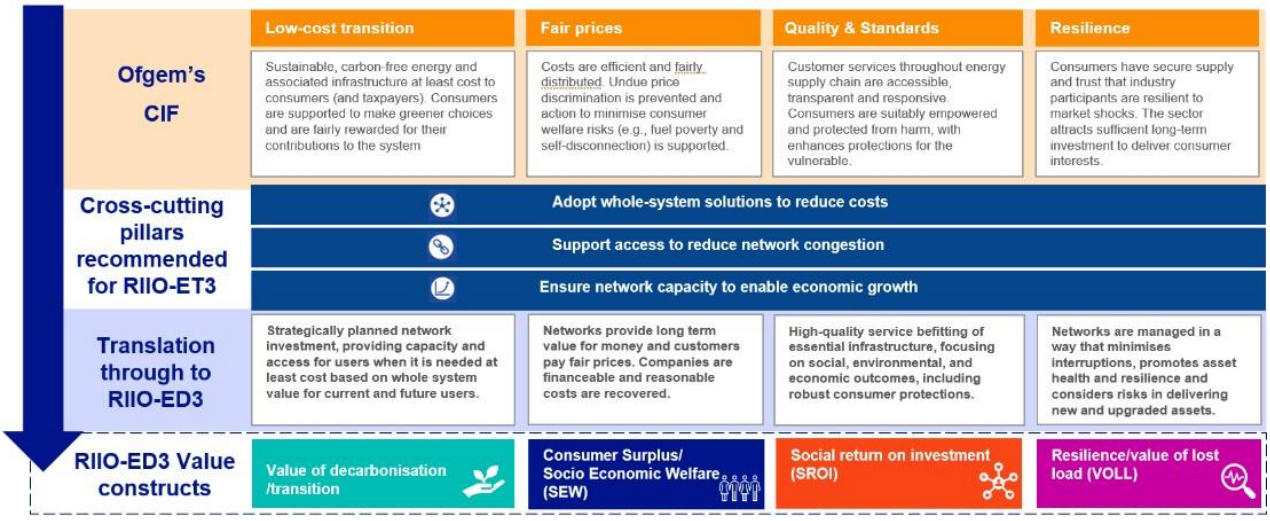
(i) Adopting a longer-term perspective; and

(ii) Addressing wider social and environmental challenges and externalities where outcomes are less easily measured.

Embracing an approach focused on delivery of consumer value and a Consumer Value Framework (CVF)

In order to further these objectives, we have proposed the introduction and application of a Consumer Value Metric (presented to the Ofgem RIIO-ED3 working group in November) underpinned by a Consumer Value Framework (CVF). This seeks to ensure the consumer is placed at the heart of Ofgem decisions and the actions taken by networks (see figure 1). The CVF is aligned to Ofgem's Consumer Interest Framework (CIF) and adapts this for a RIIO specific context supported and underpinned by RIIO-ED3 value constructs. We have also included a detailed annex which builds out our proposal.

Figure 1: CVF and CIF Alignment



The introduction of a CVF, such as proposed by us, will help provide transparency to stakeholders on network performance and the measurement of value being delivered by the networks. It will enable Ofgem to consider calibration and trade-offs between policy measures, thus helping ensure the incentive package is structured to maximise consumer value – both short and longer term – consistent with the discharge by Ofgem of its primary duty.

We see this as an absolutely central plank for ED3 and for the next stage in the overall development of RIIO in the context of Britain's policy ambitions. Against the backdrop of significant need for investment, the CVF will assist both Ofgem and networks to better articulate the basis for their decisions and actions to stakeholders based on the wider measurement of the value delivered. It should act as a complement to RoRE in terms of yardstick network performance. This will help support the incentives necessary to deliver on the CP2030 and Net Zero ambitions. It also aligns with Ofgem's new Net Zero and Growth duties which it will exercise for the first time within a price control context in RIIO-3.

With detailed evaluation to support the necessary incentives through Ofgem's Impact Assessment

This Responsible Business approach, supported by the CVF, must be underpinned by the regulatory

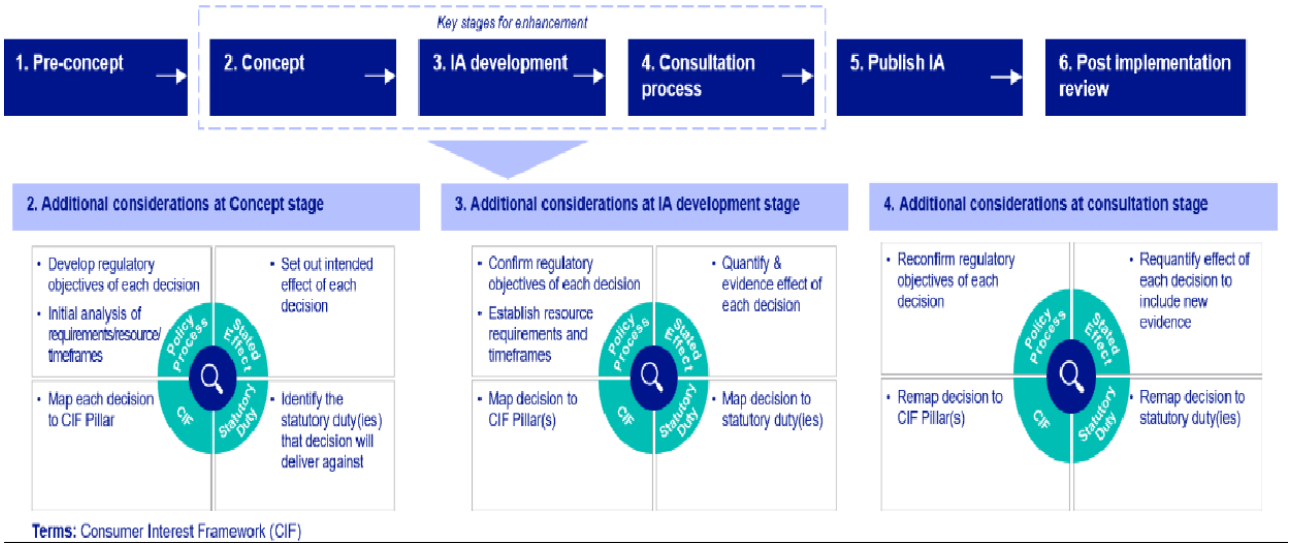
contract and construct. We welcome Ofgem's publication in December of its revised approach to Impact Assessment. It is critical that the Impact Assessment ensures decisions will lead to the desired outcomes and effects, both individually and collectively.

As part of the SSMD for RIIO-3 at Transmission and Gas Distribution, Ofgem invited stakeholder views on how to best consider Impact Assessment for RIIO-3. We have taken this opportunity to provide our input as an additional annex to this framework (see annex 3). We believe the approach we have set out should be adopted as part of the development of the RIIO-ED3 framework and ultimately determinations. We would urge Ofgem to be clear on the basis of its decision making, and inputs, from the earliest stage in the process and to adopt a transparent and accountable decision-making process. This will help improve legitimacy in relation to the regulatory approach across networks, stakeholders and wider society.

In our supporting IA annex, we outline the considerations Ofgem should undertake in its decision-making processes. The proposed IA process can ensure consumer value is central in its approach and for networks when planning, designing and delivering the investments required to facilitate the transition to a net zero electricity system.

In particular, stakeholders require transparency of Ofgem's decisions, and the analytical framework employed (see Figure 2) to arrive at each individual decision and its overall assessment in fulfilling its statutory duties. This requires analysis of their "stated effect", utilising quantitative and qualitative assessments. This approach delivers a comprehensive set of metrics and indicators that capture consumer value, delivering tangible benefits to consumers, and allowing stakeholders to assess the justification and viability of decisions.

Figure 2: Illustration of IA analytical framework



Listening to the consumer voice and responding to consumer needs

Turning to customers, and customer service. We welcome the appointment of Independent Stakeholder Groups (ISGs) and the associated Terms of Reference. We also agree that a differentiated 'place-based' engagement approach (further supported by RESPs) is required and will enable local and regional voices to be heard. This is particularly the case for us – our business covers four licensed areas and stretches from the Isles of Scilly, South Wales and the Cornish coast to Birmingham with very different societal needs and topological challenges and requirements.

This suggests that a ‘one size fits all’ approach to ED3 determinations across both licensees and companies will not be appropriate. We encourage Ofgem to reflect carefully on how it will consider both local inputs and regional variations within the specific licensee impact assessment of its decisions. Setting out how it will support clear line of sight from the local and regional inputs, and inputs of ISGs, through to the final decision making within the ED3 determinations.

Respecting customer differentiation and vulnerable customers

It is important that we think carefully in terms of the measurement and attributes of customer segmentation to ensure we meet the diverse needs of our customers. We are already engaged in this area and have in place a Consumer Insights Forum covering a full range of demographics, small businesses and future bill payers. In the ED3 preparation period, collaborating with trusted partners will help represent the perspectives of vulnerable customers, with tailored engagement for specific vulnerabilities enhancing representation.

During ED3, it will be important for DNOs to be able to assess the reach of partnerships and the impact of our PSRs across diverse demographics and geographies. Consistent with that which Ofgem has set out, this approach increasingly supports social value over purely economic considerations.

As energy usage patterns evolve and the transition to electrification continues, our understanding of vulnerable and ‘worst served’ customers must also adapt. This will require an ongoing refinement of customer segmentation and assessment processes. This is particularly important in light of changes in energy consumption, including increased electrification, and the increased focus on social equity.

We have conducted work to understand the enabling and transformational capabilities that we will need to build to address the evolving needs of different types of customers. For example, whilst all customers expect reliability from the grid, their specific needs may vary. For some, reliability is essential for seamless integration of green technologies; others such as ‘worst served’ customers, may prioritise reduced power interruptions, others still will prioritise lower energy bills. To meet these diverse needs, we will need to prioritise different areas of development.

For customers focused on green technology integration, we will need to invest in network upgrades that enable higher penetration of renewable energy sources. For those seeking more affordable energy, we will need to focus on enhancing demand-side response programmes and providing digital tools that enable customers to actively participate in energy markets and lower their energy costs. By tailoring our efforts to these varied customer needs, we can deliver meaningful benefits and drive a more sustainable energy future.

By focusing on these differentiated needs, we can provide meaningful benefits to all customers, contributing to a more resilient and sustainable energy future for everyone.

Utilising the CVF to ensure incentives are meaningful and drive value

The CVF, consumer value metricisation and customer needs should be underpinned by an incentive framework which drives behaviours to deliver and unlock this value. This means that in developing ODIs, RIIO-3 should not simply turn to that which was in place at RIIO-1 and 2 and further ‘ratchet’ and set more challenging targets. Many of the existing incentives have delivered and will continue to deliver in their current form and level, while other, new incentives will need to be developed to ensure they drive innovation, ensuring DNOs deliver service improvements that meet customers’ evolving need.

A target scoring of nine for BMCS, a level which has been attained, is something which we as an industry should justifiably be proud of. The reduction in Customer Interruptions (CI) and Customer Minutes Lost

(CML) through the Interruptions Incentive Scheme (IIS) has delivered significantly improved service to customers and means that on average customers experience interruption of only on average 34 minutes per annum. Going forward however these incentives need to be tailored and a complementary or different approach adopted.

Figure 3: Consumer Outcome: Drivers of Change Matrix

We support Ofgem's intentions to review value of lost load (VoLL) as part of this process. For example, IIS is a purely economic measure and premised on an out of date approach to the measurement of VoLL. VoLL in itself does not fully recognise the value in the context of the transition and an increasing move to a single vector energy solution. It also does not support or target investment at the poorest performing circuits and worst served (NARM is similarly so, see section on Resilient and Sustainable networks below).

Turning to Specific Incentives in place at ED2 and how these might be amended

The BMCS has driven significant improvements in consumer performance and has now reached diminishing returns. However, it is important to recognise that as societal expectations evolve that maintaining current levels of performance takes continued effort; it cannot simply be assumed as BAU.

We believe that a review of BMCS and its approach is needed whilst accepting there is a continued need for customer feedback which can be folded into a broader consideration as part of the deliberative customer engagement.

The Consumer Vulnerability Incentive (CVI) is already driving significant positive benefits for some of the most vulnerable customers across the UK. With the acceleration to net zero, in ED3 it will be more important than ever that we use our role as trusted energy providers to support our customers in vulnerable situations to benefit in the energy transition.

When it comes to the PSR the reach could be 90% + by the end of ED2. We believe the PSR reach target could be evolved or complemented with a metric which measures the quality of PSR information and data capture and the fuel poverty and LCT targets in the CVI should be combined. To encourage innovation, particularly in LCT support delivery, the CVI should incorporate an element of innovation funding.

The TTC incentive has been a useful tool to ensure that we are delivering to our customer's needs. Going forward, however, we need to ensure that the TTC incentive is also driving the right behaviours and outcomes for the customer. ED3 connections incentives, including the TTC, should enable customers to be connected in a timescale which suits them, consistent with their need.

The current IIS incentive has been highly successful in driving performance improvements for customers but doesn't incentivise longer term thinking or investment ahead of need. The IIS incentive also only looks to deliver reliability for the average customer and does not incentivise or prioritise those customers on the network periphery with lower performance standards. It is important to recognise that it is not possible to deliver an uninterrupted power supply from a distribution network designed to P2 standards (see above our discussion on the need for evolving standards); investment needs to be proportional to needs and provision of a minimum standard merits further consideration here.

Ofgem should consider a switch, or complementing, from average service to minimum service. Minimum service will be more important with electrification and consumers growing reliance on electricity. Future incentives on reliability need to look wider, with additional focus on customer and network segmentation, to drive a just transition for all. Focusing on delivering a level of reliability irrespective of where you are on the network. This would increasingly recognise that networks play an important social role and that the societal effects of different standards of service in today's information age, and where households will increasingly be reliant on a single vector for their entire energy needs, are increasingly stark.

In addition to purely economic incentives, Ofgem must increasingly consider the social value and social purpose delivered by networks and incorporate this with the regulatory architecture and incentive framework. Energy efficiency represents one such potential area and is discussed further in the detailed question responses provided.

ODIs, CVPs and Bespoke Measures

Ofgem raises the issue of bespoke ODIs and Consumer Value Propositions (CVPs). As we have already outlined, we are firmly of the view that it is desirable that a wider Consumer Value Framework and Consumer Value Metric is adopted as part of ED3. This ensures consumers and consumer value is at the heart of the RIIO framework. If this is adopted, then we do not see the need for a specific set of arrangements in relation to CVPs in the way they were specifically provided for as part of RIIO-ED2.

This raises however a more fundamental point; on the one hand Ofgem considers there is a potential that CVPs and ODIs create a 'postcode lottery' or regional differentiation. At the same time, it is important that regional and local considerations - whether from RESPs or local stakeholders - enable the shaping of the plan. Equally, aspects of the current incentive regime serve to create differentiation in service – for example the treatment of worst served customers through an 'average' based approach.

It is our view that all customers should be entitled to a minimum service and a level of universality in terms of network reliability and resilience. However, at the same time as regional differentiation, pace of the transition and local considerations it will be right and proper that a local and licensee approach is adopted, with a sectoral wide approach being less appropriate.

This has ramifications when it comes to cost assessment where an approach which recognises these differences will be required. The implication is that there need to be additional controls in relation to a simple econometric assessment between networks which may be at different stages in the transition as part of a longer-term plan and may be responding to different requirements identified through RESPs or other local stakeholder engagement.

A revised approach to costs and cost assessment fit for purpose for the challenges ahead

We agree with Ofgem that in the future a greater proportion of costs will need to be technically assessed. However, we do not believe this need necessarily be at a project specific level of granularity, but rather on the basis of overarching programmes and approach to network development.

Tools for cost assessment will need to adapt to acknowledge the evolving cost drivers and cost factors in ED3, recognising a greater disconnect between historical and forecast data. Totex regression models may no longer have sufficient accuracy or statistical robustness to be relied on to set cost allowances. Requiring a greater reliance on disaggregated and technical assessment in areas materially affected by the drivers of change.

Ofgem will need to be cognisant of and assess what level of service or workload the benchmark model is funding for the future and its comparability with historical outputs. Furthermore, investments/delivery output that are ring fenced for separate assessment may create distortion to benchmarking of remaining costs (eg. indirects) and may necessitate significant revision to historical Totex models.

Real Price Effects (RPEs) and OE will need to be thought about differently. The cost pressures faced within our sector will not be easily replicated through exogenous indices. There will be a need to recognise market concentration, supply chain challenge and capacity and macroeconomic effects in terms of infrastructural demand. This means we can no longer be thought of simply as price takers within an equilibrium market environment. Ongoing efficiency must recognise that we are facing a step change in terms of activity and is very different to an ongoing repeatable Business as Usual type model or environment. We must return to first principles, ensuring the approach adopted is grounded in evidence and balances risk in a manner which supports financeability and the wider consumer interest.

Box 2 - Reflections on Cost Assessment in ED3

The cost assessment methodologies traditionally employed by Ofgem to generate cost allowances are based on econometric analysis. However, several factors are now impacting Ofgem's ability to use and place the usual level of reliance on its traditional approach. New areas of investment where little historical data exists, unprecedented supply chain pressures, and the broader consideration of value will need all need to be factored into Ofgem's approach in setting allowances. The combination of these factors means that there is much greater uncertainty about input costs.

Historical Precedent

Ofgem's previous modelling approaches are heavily reliant on utilising historical data, in relation to the costs, cost drivers and the nature of the activities themselves. Given the ever- increasing pressures on costs from the supply chain, historical costs will no longer be a reliable indicator of future costs.

Activity drivers will also need to be reviewed, revised, and updated by Ofgem to ensure they remain relevant. The scale and pace of delivery in ED3 will be unprecedented as will the underlying drivers for investment. Historical practices and cost drivers will no longer be representative, and the historical relationship and statistical significance will be significantly different from that in previous price controls.

In addition, the physical nature of activities and the technical solutions being employed will likely differ, further impacting the ability to rely on historical precedent. Given the level of change across these various aspects, caution will need to be employed when using historical data and the significance/reliance that can be placed on traditional economic/statistical approaches which rely on historical data to predict future costs.

Disaggregated Modelling Approach

To ensure that allowances for ED3 are cost reflective Ofgem should employ and place greater weight on the use of disaggregated modelling in its cost assessment process. Disaggregated modelling allows for a more detailed and accurate analysis of cost and cost drivers by breaking down the disparate regulated activities into smaller, more manageable components. This will be particularly important in ED3 as the nature of activities and the inherent drivers evolve to meet the different challenges of delivering the energy transition. Totex modelling may no longer be as appropriate or relevant if greater elements of the Price Control are subject to technical and/or bespoke forms of assessment and the relationship between cost and cost drivers change.

Technical Assessment

The use of more technical/bespoke assessment for particular cost areas will play an important part. However, it will be imperative that Ofgem set clear and definitive guidance and instructions on where and how technical assessments are employed in ED3. We are cognisant that their use and interaction with other forms of assessment can be complicated and ambiguous. Ofgem will need to be provide precise and comprehensive guidance on the circumstance of when such an approach will be used as well as the nature of the assessment and evidence requirements that DNOs will be subject to.

The above suggests the need for significant reform and enhancement of the cost assessment approach for the challenges ED3 will bring. We look forward to working with and engaging Ofgem in developing an appropriate approach.

A financial framework which enables capital to be raised and investment to be delivered

The RIIO-ED3 framework must be both financeable and investable to attract the necessary levels of capital. It should also ensure the financial package drives value for consumers through a range of incentives, meaning a well performing company has the opportunity to earn returns above a baseline cost of equity.

It is important that Ofgem recognises the context of the ED3 price control is one of significant change; the macro environment has moved to ‘higher for longer’ interest rates, there is fierce international competition for capital to deliver net zero and other global infrastructure projects, the increasing scale of investment and new technology, and supply chain and labour constraints, all of which serve to increase risk for DNOs in ED3, with a corresponding increase in required returns.

It is important to recognise the importance of cash flows for investors, and the importance of maintaining a strong investment grade credit rating. Earnings growth should match asset growth and support acceptable dividend yields for investors when compared with other potential investment opportunities. The financial package should also offer a fair opportunity for efficient high performing companies to outperform through the design of the incentive framework, creating value for investors and consumers.

Whilst there are elements of the RIIO-3 Sector Specific Methodology Decision – Finance Annex for ET, GT and GD which can be implemented for ED3, there are differences between sectors which mean that not all elements of the RIIO-GD/T3 financial framework should be directly applied to ED3. There are key differences in the Electricity Distribution sector that Ofgem must fully examine, for example, a need to review depreciation profiles to address issues of intergenerational fairness, financeability and uncertainty. National Grid has set out its detailed views on Ofgem’s approach to financial parameters in its RIIO-G/T3 SSMD Finance Annex, including its approach to setting the Cost of Equity, in its RIIO-T3 Business Plan. These points are also made in the collective network response to this consultation submitted by the ENA.

Given the need to attract a significant level of investment into the sector, there is a need for strong credit

metrics to ensure companies are financeable. Ofgem must ensure there is sufficient headroom in any financeability assessment to ensure network operators can withstand shocks. Maintaining an investment-grade rating of Baa1/BBB+ is important for investor confidence and consumer interests. Aiming for a minimum credit rating of Baa1/BBB+ improves access to the debt market and reduces debt costs compared to a Baa2/BBB rating.

We are generally supportive of the financial resilience measures in the RIIO-3 SSMD. Financial resilience cannot however be considered in isolation from financeability and investability. Given the criticality of attracting and maintaining investors, signals to investors must be considered alongside the benefit to consumers, ensuring that financial resilience and investability measures are complementary rather than conflicting.

Smarter networks

We agree with Ofgem that a smarter, digitally enabled energy system will allow more active management of the network and is a necessity for reaching net zero which will require better and more easily accessible data for stakeholders.

DSO role in ED3

We agree there is a strong and ongoing need for robust DSO functionality in ED3, which plays a critical role in both system planning and system operation, enabling an efficient network that optimises a timely balance between reinforcement and flexibility. Importantly, both of these roles are facilitated through the use of flexibility markets.

We have been at the forefront of system planning and were the first DNO to publish an annual DFES. While our planning approach has been foundational in the transition to a smarter, more flexible energy system, the focus is shifting towards the RESP framework, which will drive even greater emphasis on regional-specific energy solutions.

As part of this shift, flexibility markets will continue to be an essential tool for managing network risks, not just deferring investments, but enabling quicker renewable connections and providing a more adaptable approach to meet evolving energy needs. As the DSO, we will increasingly rely on flexibility to manage the delivery of network capacity while mitigating the risks of the delivery of the planned network investments. Flexibility allows us to meet customer needs while also maintaining resilience in the network. As we see more active networks, the challenges around system operability will grow, particularly with the increasing complexity of balancing diverse and distributed energy resources. This will be a key area of focus for the DSO in ED3, with an expanding role to ensure the smooth operation of the grid. The benefits of effective system operation include quicker renewable connections, lower distribution network costs, reduced carbon emissions and improved security of supply. In addition, as we improve our whole system thinking it also leads to lower system balancing costs and transmission constraint costs.

It is important that the DSO incentive mechanism is retained and augmented to drive innovation and ensure delivery of network improvements that meet customers' evolving needs. The DSO should be incentivised to act as enablers of system-wide benefits, including broader use cases for flexibility to provide revenue streams to flexible assets and reducing overall system costs.

We continue to see a role for the survey and panel assessment but also a greater role for quantitative incentives reflecting the benefit the DSO delivers to consumers.

Data and digitalisation

Digitalisation is an important enabler to improve and develop the digital infrastructure of network companies. ED3 must build upon the progress of ED2 by continuing to drive foundational data capability development, ensuring robust and consistent frameworks are in place before shifting focus to advanced capabilities.

We are supportive of Ofgem's historical approach to enhancing data and digitalisation through the RIIO-ED2 framework, developing digital tools and data sharing. Ofgem Data Best Practice

(DBP) Principles have guided and progressed DNO data sharing and been necessary to establish DNO open data portals. Ofgem's ongoing support for transformative developments, such as an energy system Data Sharing Infrastructure (DSI), and Consumer Consent Solution are critical capabilities to support the continued digitalisation of the energy system.

Whilst this approach for ED2 has provided a strong foundation for data and digitalisation, we believe that the anticipated levels of collective DNO data maturity may not be fully realised by the end of ED2. Digital infrastructure faces challenges in scaling to meet the increasing demands of data volume, velocity, variety and the increasing need for real-time, data-driven decision-making across interconnected systems.

Further foundational work will be required in ED3 to address these challenges. Platforms, systems, and data capture must be continuously improved to manage the exponential growth in data volume and complexity while supporting future advancements and prioritising the customer. Industry-wide frameworks underpinned by open standards and protocols will be critical to enhancing interoperability and enabling seamless communication across DNOs.

ED3 should include stronger incentives linked to strategic outcomes (i.e. strong digital foundations, high-quality data, scalable platforms) to reward collaboration, innovation, and the delivery of strategic priorities. Incentivising collaboration will be vital to align approaches and sharing of best practice. Integrating emerging technologies, including AI, will further enhance forecasting, operational efficiency, and decision-making capabilities.

We see the use of Artificial Intelligence (AI) as a transformative opportunity for the energy sector. AI offers the potential to optimise network operations, process and analyse large volumes of complex data in real time, and provide actionable insights to enhance decision-making. Additionally, AI tools can optimise network design by forecasting future demand patterns, improving the efficiency of investment decisions, and ensuring infrastructure is developed in line with net-zero targets.

Ofgem should implement incentives in ED3 to encompass AI-enabled data platforms, improved data quality, and foundational capabilities. Enabling DNOs to accelerate innovation, enhance operational efficiency, and deliver improved customer satisfaction, greater network resilience, and measurable interoperability. These enablers are key to ensuring the energy system remains adaptable to future challenges and achieves critical milestones by the end of the ED3 price control period and beyond.

We also recognise the growing importance for digital expertise within the energy sector, particularly as the pace of technological change accelerates. To build internal digital expertise, it will be necessary to prioritise and fund targeted investment in workforce development and the creation of training initiatives that focus on critical skills to attract and retain digital talent.

Utilising cross-sector collaboration will be vital to accelerate digital capability development, fostering partnerships with technology firms, academic institutions, and industry groups to share best practices and exchange knowledge.

Implementing frameworks in ED3 that support development of people-centric initiatives to integrate industry-specific expertise with advanced digital skills to enable licensee digital expertise will be a vital enabler. We propose to work collaboratively with Ofgem to implement performance-based incentives that encourage

investment in digital expertise and innovation to achieve a digitally proficient workforce, enabling the sector to attract, build, and retain market- leading talent.

Innovation

We agree and support the proposed structure of the ED3 framework to drive transformative innovation across the energy sector. ED3 presents an opportunity to address key challenges, advance digital capabilities, and ensure that innovation delivers significant and measurable outcomes for customers and stakeholders.

Under current ED2 arrangements, the transition from successful innovation projects to full- scale deployment is challenging. The current NIA and SIF mechanisms enable networks to work towards raising the technological readiness of solutions, but not their eventual deployment at scale. DNOs need to be able to develop technology readiness to support day to day operations, but also be able to scale the capability models that can turn technology and insight into benefit across the network.

Greater consideration of how to scale up and deploy should be considered for ED3. Ofgem should implement mechanisms in ED3 that promote the resource commitment required for high volume roll out of transformational concepts to address the gap between innovation stimulus and full deployment. Funding the scaling of pilot projects would bridge the gap between innovation and deployment. Such mechanisms should also take a longer-term view on scale up and roll out to aid the deployment of transformative innovation.

ED3 should provide certainty which empower DNOs to make transformative, large-scale investments over the longer term. This will foster confidence to deploy emerging technologies, even when their full benefits may only materialise over extended timelines.

Resilient and sustainable networks

We are committed to continue delivering a safe, secure and resilient network and our asset stewardship is predicated on strong asset management practices. However, the changing energy landscape and growing risks from climate change requires adaptation to the regulatory frameworks to support investment. A more integrated approach to managing asset health will be required for ED3 and beyond, requiring flexibility and adaptability in our future network and asset design.

The RESP will help inform plans to ensure that expected demand and generation connection requirements and their impact on forward looking capacity are aligned with DNOs' replacement strategies. However, the resultant ED3 mechanism to facilitate these strategies should avoid overly prescriptive outputs and be flexible enough to respond to the changing inputs and requirements, recognising regional differences on scale and pace of investment. Intervention strategies and the supporting ED3 mechanisms should recognise the long-term objective, creating opportunities for "no regret" investments to advance appropriate projects and deliver a fair outcome for all customers, ensuring no one is left behind.

NARM and its evolution

NARM has been useful historically in incentivising the delivery of risk-based network interventions, focussing on high criticality assets and deteriorating asset health. However, it potentially drives decisions which prioritise risk reduction at lowest unit cost using like for like or cheaper alternatives which may not factor in future need. Furthermore, its mechanistic approach may inadvertently discriminate against those customers experiencing poor performance on the periphery of the network due to the perceived low criticality of the

associated circuits. As a result, it may fail to recognise the impact on individual consumers and their ability to effectively engage in the energy transition. NARM therefore needs to adapt and address the challenges of a changing energy landscape in ED3 and beyond. The adaptation will be imperative to ensure solutions programmed in ED3 look beyond the artificial constraints of the price control period and deliver enduring solutions.

A future NARM framework needs to recognise and appropriately value other factors which will influence and inform asset interventions. Forward-looking network capacity, losses and climate adaptations should be incorporated to ensure both asset and customer needs are addressed over a longer-term view than is currently afforded in NARM, avoiding unintended short-termism outcomes. This adaptation will need to be made while cognisant of the increasing complexity of the multiple capital drivers of intervention to deliver the optimum outcome for customers.

These changes will inevitably lead to revisions to the historic cost assessment processes as the trajectory of asset costs/skilled labour and new ways of working will further inhibit the ability to rely on historic costs.

Climate Resilience

Given projections that distribution networks are increasingly at risk from more frequent and intense climate events, urgent action is required to ensure consumers can safely rely on networks for their ever-increasing energy needs.

The current range of incentives do not directly or equitably aid network reliability in the face of climate hazards. Current mechanisms such as IIS are historically focussed and do not account for the average becoming more taxing on network assets due to climate change or the compounding effect of multiple simultaneous factors or any delayed impacts.

Climate resilience adaptations will need anticipatory investment if resilience levels are to be maintained. This requires the investment and their assessments to look beyond the 5-year price controls, utilising Adaptation Pathways will help mitigate the risks associated with over/under investment predicated on long-term decisions.

To support investments and incentive frameworks, further research is required to understand the hazards and their impacts and identify suitable climate resilience targets and reporting metrics. A data driven, climate based targeted approach for activities such as vegetation management, flood mitigation and storms could significantly improve network resilience.

Ofgem will need to develop robust and achievable network performance climate resilience targets and supporting frameworks to facilitate adaptations, recognising that the risk and resultant interventions may not be singular in nature.

We are keen to see the development of an appropriate set of metrics to measure network resilience, taking account of the potential impact of climate change. Development of a climate resilience metric (CRM) will be an important element of ED3. The ENA climate change resilience working group (CCRWG) has initiated work on this topic and shared its outcome with Ofgem, though further work is required to clarify the key principles and rules of a CRM. Additional research is required to ensure the development of meaningful KPIs, and appropriately benchmarked targets should be the current focus to enable appropriate incentive frameworks.

Environmentally sustainable networks

We are committed to continue taking decisive action to mitigate the impact of its network operations on the environment, including reducing GHG emissions that contribute to climate change.

The main components of the ED2 environmental framework require to be updated and strengthened to develop a holistic view of environmental impacts from the rapid acceleration of network investment and ensure appropriate mitigations are identified and funded. Factors such as the direct and indirect impact on nature from network investment should be integrated into the environmental framework and UMs will be required as we await direction from the relevant regulators (e.g. DEFRA regarding SF6 and the rate of its removal from the network).

Issues such as losses may need to be re-framed as we further move to renewable generation i.e. network losses will move from being a CO2 issue to an oversizing renewable generation issue to cover losses. Consideration needs to be given on the relative costs of reducing losses verses the cost of oversized generation capacity, particularly where network capacity already exists and is sufficient to meet net zero.

Cyber Resilience

We agree that building on the cyber resilience approach established in the RIIO-3 SSMD is essential for ensuring the security and robustness of the energy network. Enhancing its effectiveness through clear alignment with recognised industry standards (e.g. Network and Information Systems Regulations) and establishing precise guidelines and external audit requirements (e.g. Payment Card Industry Data Security Standard) will be critical to reinforce a unified security posture. ED3 should adopt an outcome-driven approach to cyber resilience to align with NCSC's Cyber Assessment Framework (CAF) and help ensure that cyber resilience efforts are both impactful and transparent.

Supply chain and workforce resilience

There is significant competition to attract, hire and retain talent across the infrastructure sector, both within the UK and globally, which is further compounded by current sector-wide attrition rates and an aging workforce. The ED3 framework needs to enable investment in building skill capability in anticipation of need. Investment in upskilling and reskilling staff in smart and traditional networks engineering will be vital to alleviate the market factors driving up resource constraints. Working collaboratively with the supply chain to address the skills shortage for both the short and long term will also be a key enabler to alleviate the skills challenge faced by the sector.

Furthermore, the supply chain is under significant pressure from growing global infrastructure demand and macro-economic impacts, adding to supply chain risk and disruption. Regulatory certainty and forward visibility of investment will be imperative to secure the supply chain while minimising risk and cost volatility. This may require mechanisms such as the Advance Procurement Mechanism used in Electricity Transmission, tailored to the unique nature of distribution network investment and assets. ED3 will need to ensure that the balance of risk across all parties is managed appropriately to ensure this does not inadvertently drive risk premiums or even constrain network's ability to secure the necessary supply chain engagement.

Summary

In summary, there is both considerable ambition which requires a longer term approach, and many challenges which need to be addressed in the ED3 regulatory framework. At its heart we believe this needs to be underpinned by Consumer Value and have included our additional separate annex outlining our initial thinking on a Consumer Value Framework. We also include our response to each of the individual questions raised by Ofgem. In each instance, in addition to the response itself, we have for each question summarised our key messages in a small number of bullets in order to best assist Ofgem and other stakeholders in understanding our position.