

## **Framework consultation: electricity distribution price control (ED3) - Energy UK response**

**24.01.2025**

### **Executive Summary**

Energy UK is the trade association for the energy industry with over 100 members - from established FTSE 100 companies through to new, growing suppliers, generators and service providers across energy, transport, heat and technology. Our members deliver nearly 80% of the UK's power generation and over 95% of the energy supply for 28 million UK homes as well as businesses.

The sector invests £13bn annually and delivers nearly £30bn in gross value - on top of the nearly £100bn in economic activity through its supply chain and interaction with other sectors. The energy industry is key to delivering growth and plans to invest £100bn over the course of this decade in new energy sources. The energy sector supports 700,000 jobs in every corner of the country.

Energy UK plays a key role in ensuring we attract and retain a diverse workforce. In addition to our Young Energy Professionals Forum, which has over 2,000 members representing over 350 organisations, we are a founding member of TIDE, an industry-wide taskforce to tackle Inclusion and Diversity across energy.

Energy UK welcomes a more proactive, input-led approach to the distribution network price control under RIIO-ED3, essential to delivering the necessary network buildout at lower voltage levels in the coming years. Ofgem must also build in more adaptive approaches to ED3 for DNOs to rapidly respond to key uncertainties. ED3 presents an opportunity to incentivise better performance from network operators and develop secure supply chains and a skilled workforce.

System flexibility has the best potential to lower wholesale prices for all consumers. With the scale of the change required, supply chain challenges for network build-out and take-up of consumer-side technologies will necessitate a scale-up of all available options, including network reinforcement and robust competitive markets for flexibility throughout the RIIO-ED3 period.

If you would like to discuss this response in further detail with Energy UK and its members, we would welcome further engagement.

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## **Consultation Response**

### **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?**

Energy UK believes most of the key themes for ED3 have been captured, but others should be included.

There is a broader need to account for policy changes including the need to reform network charges in a way that both attracts investment and ensures costs are distributed fairly, the need to harmonise electricity infrastructure plans with those of other infrastructure vectors and local housing plans as well as emerging heat network zoning. Beyond this, there are wider policy considerations outside of the energy space, including the outcomes of the Industrial Strategy, the anticipated growth in demand from data centres under the Government's plans for Artificial Intelligence,

The role of the National Energy System Operator (NESO), alongside the Distribution Network Operators (DNOs), as a major buyer of flexibility is also missing from the characterisation. Ensuring Flexibility Service Providers (FSPs) can stack revenue between different markets and improving NESO/DNO coordination will help increase liquidity and is an essential consideration to the future build required by DNOs. Robust, competitive markets for flexibility will benefit all consumers as set out by Ofgem itself in numerous publications on smart flexible energy systems.

### **ED3 objective and consumer outcomes**

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

Energy UK broadly agrees with the outlined consumer objectives for ED3, however, more explicit language is needed on delivering the objectives in a cost-effective manner. Despite Ofgem's justified shift towards prioritising proactive network buildout, this is not a justification for watering down commitments to pursue cost-effective solutions in line with Ofgem's Net Zero and growth duties.

### **Regulatory framework**

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

Energy UK agrees with the need for the ED3 price control to be more input-based. The amount of construction at the distribution level over the coming years and the need to align with wider strategic planning necessitates greater direction from Ofgem concerning the expected outcomes from the networks.

It is right that the outputs of the Regional Energy Systems Planners (RESPs) should form a guiding factor for the ED3 price control, there is rightly concern from Ofgem that there won't be enough time for them to meaningfully direct the price control before the start of the control period.

Within these inputs, there must be a built-in mechanism for adaptive planning. This will likely necessitate highly detailed up-front thinking by the DNOs and Ofgem regarding building plans that are known to be needed and those that aren't.

The PR24 process endorsed by the Department for Environment, Food and Rural Affairs (DEFRA) and Ofwat as a method for adaptively planning the expansion of water and sewage projects, and wider work to develop Smarter Regulation under DBT have gone some way to understanding the methods for delivery that could be adapted for regional planning. More detail is provided in response to question 6.

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

Energy UK agrees with the proposed shift to greater use of price control deliverables (PCDs), to ensure the delivery of planned investments.

These PCDs should initially be closely linked to known investments needed in line with strategic energy plans and local RESPs.

They could also, crucially be based on the delivery of key reinforcements and connections, especially like those needed for the Clean Power by 2030 (CP30) Plan and the Strategic Spatial Energy Plan (SSEP).

For instance, the proposed 'Connection Timeframes' incentive outlined in Ofgem's Connections End-to-End Review consultation. While we recognise the difficulty with creating benchmarks for an incentive based on the speed of the time to connect projects, we believe this issue could be partly circumnavigated by basing the incentive on other metrics. They might include the number of times connection agreement timelines had to be pushed back due to factors classified as foreseeable by the DNO (see answers to questions 3 and 4). Alternatively, the incentive could be based on the degree to which connections successfully met the CP30 connection technology 'buckets' in time for the 2030 deadline (or 2035 for the SSEP).

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

Energy UK agrees that incentives do need to shift to become more input-based and proactive than ED2. We agree they need to be more focused on preventing the risk of under-delivery than on cost reduction and avoiding stranded assets.

Energy UK supports Ofgem's position to prioritise 'system flex' over 'network flex' where there is a conflict. However, we emphasise that, in practice, the challenges of rapid decarbonisation will require both significant growth in network investment and greater network flex over the next price control period.

Energy UK would support a continuation of the current approach on TOTEX which equalises incentives for capital and operating costs. Evidence from US and European markets, suggests that unless DNOs are strongly incentivised to explore and develop flexibility as a non-wire solution, they will focus on capital reinforcement rather than expand both. Flexibility is still at an early stage and can be challenging. DNOs need to see the financial rewards to justify investing time to build their own understanding even before they get to the stage of contracting and dispatching assets.

Incentives need to align with the wider duties that Ofgem has now taken on and the wider priorities of government economic strategy. This includes delivering economic growth, decarbonisation, digitisation, reliability and resilience as well as improved customer service.

**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?**

Energy UK agrees that reopeners will have a role to play in ED3.

However, the sheer number of uncertainties that will need to be dealt with during a period of unprecedented buildout at the distribution level means reopeners cannot form the cornerstone of the uncertainty mechanisms.

Reopeners are costly and drawn-out processes. In ED2 alone there have already been hundreds of considered reopeners. This can be expected to multiply many times over during ED3.

It is not sufficient to rely on the current structure of reopeners for uncertainty mechanisms given the scale of work and the sheer number of uncertainties at the local level that such work entails, much of which Ofgem correctly identifies in this document. It is considerably harder to model the preferences of tens of millions of

consumers on the distribution network than to model the tens of actors interacting with the transmission network.

Regarding heat, for example, the boundary between heat networks, other heat vectors and electrification in urban cores has not yet been meaningfully considered. The new RESPs will have a role to play here, collaborating with DNOs and local authorities, but these have yet to be established. They will also need to factor in the Department for Energy Security and Net Zero's (DESNZ's) Heat Network Zoning initiative and a range of bespoke heat mapping projects undertaken by local authorities.

The challenge facing the RESPs becomes even greater when non-domestic loads are factored in. While a default assumption for electrification across most lower-grade heat loads (e.g. catering, light manufacturing) is apparent in a range of model studies, this is a highly heterogeneous sector with bespoke needs that are very difficult to manage centrally. High-grade heat for a variety of end uses may be provided via hydrogen but, for sites located away from hydrogen production facilities in industrial clusters, the vector of choice is uncertain.

This issue can be addressed by adapting Ofwat's PR24 adaptive pathway planning approach to ED3, in line with the shift to a more input-heavy price control. This is based on incremental investments to meet capacity needs until more information about the future is available. This information may appear purely through the passage of time – e.g. learning more about future economic growth.

It, therefore, makes sense to invest in collecting information. Pulling forward 'decision points' can reduce the need for more iterative investments and the risk of building stranded assets. For example, a better understanding of consumer preferences for different low-carbon technologies can help refine scenario planning as preferences will drive likelihoods, although they are no substitute for actual buying decisions.

Ofgem, RESPs and the DNOs could use local trials to gather more information. These could test using waste industrial heat for heat networks, or novel ways of managing network capacity headroom beyond investment in traditional assets. By improving our understanding of the likelihood of different scenarios, running local experiments can complement a pathway planning regime by narrowing down the range of scenarios of future capacity requirements. These, in turn, can inform the uncertainty triggers within the ED3 price control.

Reopeners are based on the assessment of uncertainty at the beginning of the 5-year price control and hence are not very flexible. The uncertainties in these mechanisms are also not always clearly defined and DNOs are not encouraged to provide enough explicit detail about them, reflecting the lack of long-term coordinated planning that accounts for uncertainty. This leads to large investments being based on uncertain

assumptions of future demand and frequently needing to use highly costly re-openers when costs overrun. Applying for re-openers is an administratively burdensome task between the TOs/DNOs and Ofgem. The process itself is burdensome and Ofgem has to assess often using only loosely defined terms for re-opener qualification.

The difference between the current regime of re-openers and using adaptive pathway planning within the price control is the difference between reacting to uncertainty in an inflexible system and proactively adapting to uncertainty in a more detailed, responsive manner.

Meeting Net Zero will inherently include a large amount of uncertainty. pathway planning will make DNOs explicitly include the effects of these future uncertainties into their business plans making them better prepared for future challenges and making it easier for the regulator to adapt price controls. The circumstances under which an alternative pathway will be followed and the point at which the decision to change to the alternative pathway have been detailed in the business plan. This will reduce the need for drawn-out processes and negotiation over re-openers, and the need for Ofgem to scrutinise Engineering Justification papers.

The adaptive pathway planning framework proposed here forces companies to provide significantly more detail in their business plans about future objectives, what they believe are the best pathways to meet them, and what metrics they are using to monitor progress.

The higher level of detail required in the initial business planning stages may require more resourcing which may ultimately increase the cost to consumers in the short term. However, adaptive pathway planning can mean that expenditure more closely reflects future requirements. Instead of building projects based on uncertain future demand, expenditure can be spent on projects based on more certain outcomes hence reducing the potential for overspending and asset stranding. This could reduce the use of re-openers and reduce the cost to consumers in the long term.

It is welcome that Ofgem is open to ideas for integrating adaptive planning into ED3. The regulator must consider how to marry the top-down inputs of the price control to align it with spatial plans with more bottom-up adaptive pathway planning elements.

**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?**

Crucial to improving customer service through the price control is moving away from a reliance on customer satisfaction surveys as a measure of customer service quality.

The low numbers of responses at the later milestones of the connections process do not allow for reliable evidence of customer satisfaction to be gathered and therefore we do not believe should form the basis of a financial reward or penalty.

Energy UK is pleased to see that Ofgem's End-to-End review recommends a shift towards incentivising post-price control performance metrics, connection timeframes and transformer capacity build incentives through the price control at the transmission level.

A similar approach should be considered for ED3.

Further, as stated in our answer to question 6, there will be a need for a regulatory model for ED3 that is more adaptive and contains a bottom-up element that accounts for and plans for uncertainties ahead of time instead of relying on reopeners.

**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?**

Energy UK agrees that Plan and Deliver, as a model, is appropriate for the challenge set by load-related investment in ED3. When considering inputs, it is essential to plan as much as possible up front for uncertainties at the local level.

Incentive Regulation may be appropriate for many aspects of non-load expenditure, but careful consideration should be taken within the need for a Plan and Deliver approach with essential expenditure that is non-load related, such as on key labour positions. Ofgem should review what incentive structure is needed for what kind of non-load expenditure closely.

**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?**

Energy UK believes there may be limited circumstances where *ex-post* or cost pass-through may be needed in ED3. However, this should be kept to an absolute minimum as much as possible.

This can be enabled through a combination of an input-heavy Plan and Delivery Approach that has a built-in adaptive pathway planning approach.

**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?**

There is significant capacity to draw up flexibility from DNOs to reduce needed network investment during ED3. Whilst we agree that ‘network flexibility’ must not be incentivised at the cost of ‘system flexibility’, we think the challenge of CP2030 and the likely supply-chain constraints of network building-out will mean that the sector will need to expand both in parallel.

In 2024, the DNO flexibility markets tendered for 5 GW of flex last year but only contracted 2.4 GW, according to the Energy Networks Association (ENA). This shortfall in procurement highlights the relative unattractiveness of these markets (high transaction costs and limited revenue available from single products/ services) rather than signalling a lack of availability (this will scale fast when the offer is right).

The business model for flexibility relies on the ‘revenue stack’ with the FSP able to move freely across different markets (Distribution System Operator (DSO)- NESO – wholesale) collating value for its customer. The key barriers to this currently are:

- I. limited market access for demand-side response (DSR) and battery storage (for example: design parameters on availability or metering; dispatch capability)
- II. limited coordination between markets made more difficult by ‘exclusivity’ clauses, limited progress on primacy rules which prevent revenue stacking
- III. high transaction costs due to insufficient standardisation between DSO markets on products, procurement, contracts, delivery etc;
- IV. limited half-hour settlement in the domestic sector which creates further barriers e.g. to the wholesale market and Capacity Market support
- V. limited deployment of smart products such as electric vehicles (EVs)

Total revenue from DSO markets is modest as compared to other revenue sources - so potential FSPs will either not choose to participate or will prioritise other markets. Larger aggregators and suppliers are still not fully entering the DSO markets and smaller aggregators or asset owners are not willing or able to invest the time to develop bidding strategies based on the potential reward available.

Energy UK remains optimistic that work from NESO to unlock its markets to DSR, the DESNZ Low Carbon Flex Roadmap and the start of Elexon in its new role of Flexibility Market Facilitator from the end of 2025 will deliver a step change.

Research from [Project Commander](#), led by the ENA and the NESO indicates that distribution-level flexibility can reduce peak demand by up to 28 GW by 2050 depending on the level of coordination between NESO and the DSO and the degree



to which the future energy mix is dependent on electricity or hydrogen. The study also identified that the system-wide benefits (and consumer value) of distribution-based flexibility are larger than the savings from deferring distribution investment. This suggests that a narrow focus on distribution-based flexibility to defer network investment is potentially not the best use case in the long term.

In addition, the distribution network could be a source of inflexibility if the wider system cannot access distribution-based flexibility because of network constraints.

Unlocking the full flexibility capacity and consumer value from distributed flexibility requires appropriate investment in distribution networks to ensure it can be accessed by the wider system. Should load-related investment allowance be properly utilised by the DNOs during ED3, we may see successful procurement figures during this period begin to reach the 5 GW levels being currently tendered for by the DSOs.

It will be essential to deploy the flexibility measures DNOs can provide using their own systems and technologies in a way that is competitive and does not distort in-market flexibility measures that can perhaps reduce the need for investment more cost-effectively. This is notably something that CLASS technology deployed by DNOs is responsible for. While such technologies have an important role to play in providing flexibility, they must be deployed in a non-distortive and harmonised manner with in-market flexibility solutions.

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

Britain's networks are competing against other global networks for investment, workforce and the supply of limited hardware. These pressures are a serious barrier to network reinforcement and contribute to long lead times.

[Baringa's analysis](#) in 2024, commissioned by the Government, indicates that the market is already seeing significantly longer lead times (in some cases doubling) of up to 15 months for 33 kV, two years for 132 kV, and four years for 400 kV transformers. It also reported switchgear lead times have doubled. This is partly due to increased demand from other sectors, but also because of the transition to SF6-free, gas-insulated switchgear.

The [British Electrotechnical and Allied Manufacturers' Association's \(BEAMA's\) research](#) indicates that 50% of their members report an intention to increase the number of employees but challenges in filling vacancies remain, with some categories of manufacturers experiencing delays of 6 months to recruit.

Regarding labour shortages, the sector suffers from an ageing workforce that will need to either be retained at a higher cost or replaced.

There is a serious lack of industry visibility to potential new entrants, exacerbated by a limited pipeline of young people choosing STEM qualifications. This is made worse by competition for qualified workers, particularly for STEM roles, with other industries such as finance and technology.

Based on [research by Energy & Utility Skills \(EUS\)](#), L6 Specialist/Engineer, L6 Managerial and L3 Multi-skilled Craftsperson are particularly challenging to fill.

That same research indicates the average age of construction workers in the UK is 55 years old, not aided by the fact that only 23% of construction employers, compared with an average of 38% across the economy, offered any type of work placement meaning construction employers. This means the networks sector finds many young recruits are poorly prepared for work.

Evidence suggests retirement ages within the sector are increasing due to:

- a lower proportion of the workforce being on final salary pension schemes and
- many foreseeing the economic necessity of working to 67 (state pension age).

If this occurs, we could see a delay of retirements currently predicted for the mid-2020s – thereby increasing demand for new workers in the later 2020s.

For this reason, flexibility within ED3 should continue to be a core focus - both in terms of minimising the cost of preparing the grid for future use and embedding resiliency into ED3 deliverability. More flexibility hedges against continued long lead times for equipment and workforce pressures.

**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?**

Energy UK agrees that there is a much greater risk of under-delivery of network reinforcement than over-delivery.

Given the current underspend of the DNOs compared to their allowed revenue, there is a need to assume the potential for a series of inefficient outcomes for Ofgem should the historically cautious, cost minimisation-focussed approach to investment continue.

It is right, given Government objectives and the market's intention to invest in the Net Zero economy, to invest to permit the wide uptake of low-carbon technologies (LCTs) and connect low-carbon generation and storage.

To a large extent, encouraging network construction ahead of need will attract investment and the uptake of LCTs.

Energy UK welcomes Ofgem taking on board the findings from Project Commander that the full benefits of flexibility for consumers require avoiding deferral of network upgrades.

Nonetheless, as per the response to question 6, integrating adaptive pathway planning to the ED3 price control can balance the risks of over-delivery and under-delivery.

**Q13. What are the benefits and risks to deliverability if network reinforcement is deferred to future periods?**

Risks include a large increase in the number of delays to much-needed low-carbon generation and storage projects attempting to connect. This can impact investment confidence in the UK in these sectors compared to other markets, seriously undermining the Government's decarbonisation goals and legally binding obligations.

The other major risk is delays in the rollout of LCTs and LCT infrastructure. This will impact business and domestic consumer outcomes when trying to install heat pumps and EV chargers, impacting their experience of the installation process or entirely preventing consumers from switching. This will drain the political will for the transition and impact on the investment case for UK-based manufacture and training.

**Q14. What do you see as the role of distributed flexibility, both in the short and longer term, to manage distribution network constraints?**

Energy UK agrees with the findings of Project Commander and Ofgem that system-level flexibility should be prioritised where there is a conflict with 'network flexibility'. Without this, there is a risk that the distribution networks will limit the uptake of consumer smart products and their ability to support the system.

The proposals do, however, set up a potential conflict. CP30, non-linear deployment of consumer tech and supply chain constraints for network buildout will require an increase in both forms of flexibility in parallel.

Distributed flexibility will be an important operational tool to manage constraints (via turn up/ down) as the headroom on the network reduces, outages and to manage delays in network build-out.

It will be an increasingly useful revenue stream for suppliers/ aggregators working to support customers to access smart technologies, forming part of the 'revenue stack' to offset the capital cost. A broader challenge will be how to ensure both the network and system benefits of flexibility are fully recognised through the cumulative value

and revenue that can be gained across different markets and services which is currently not possible due to barriers to revenue stacking.

DSOs must also focus their flexibility efforts on the operability of the distribution network. Most notably, it is expected that voltage on the system is expected to rise and either run too high or too low from one area to another, depending on the mix of consumer technologies (such as heat pumps and EV chargers) and distributed generating technologies (like solar panels).

Approaching this problem in the long run will require an integrated, coordinated, place-based approach to incentivising the roll-out of flexibility.

**Q15. How do we ensure that network flexibility is used only when it is in consumers' long-term interests in ED3?**

Ensuring the optimal deployment of network flexibility must be done via alignment with Great Britain's (GB's) emerging long-term strategic planning process (SSEP and RESP) rather than a shorter-term focus on price control periods or shorter-term savings for consumers. Network flexibility that serves system needs over network needs can be facilitated through ED3 by moving from a 'flexibility first' approach towards a flexibility incentive focussed on local and GB-wide operability through active network management (ANM) and targeted procurement.

Incentives centred on network build reduction must be explicitly about minimising the amount of needed network and not about deferring investment. This can be achieved through greater alignment between ED3 and the RESPs.

**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)?**

At present, in areas where there are multiple complex constraints affecting customers over a long period, an ANM system will be implemented.

Constraints that emerge are either handled at the distribution or transmission level, depending on its size. Where Transmission Active Network Management (TANM) is used to manage a constraint all connections within the General Supply Point (GSP) will be required to be controlled by that system.

During unexpected constraints, DNOs will first rely on ANM, raising this to TANM at the transmission level where necessary. Often directly procuring solutions from the various flexibility markets proves a preferable response. Failing this, it is for the NESO

to step in through the use of either the Balancing Market (BM) or, in extreme scenarios, the Capacity Market (CM).

There are certain 'low-hanging fruit' that can ease constraints in some areas, such as lowering the statutory 216 V floor on voltage levels at the distribution level, something that is becoming increasingly less necessary and a barrier to LCT uptake as the energy system becomes more distributed and much of supply moves closer to demand.

Other solutions will take more time, but efforts are already underway and will likely start seeing results during ED3, such as the setting up of the Market Facilitator (MF) to better coordinate flexibility markets across DSOs.

The draft European Union (EU) Network Code on Demand Response states that any active kind of flexible connection agreement (ANM in the GB context) must not unduly restrict the respective parties (including customers with a controllable device) from participating in a flexibility market. This is assessed by an independent party. In a GB comparator, the independent arbiter function could be carried out by Elexon in its role as a Market Facilitator. Energy UK would be supportive of that role being delivered by the Market Facilitator.

Resolving such constraints will be essential to enabling the timely uptake of LCTs and ensuring a smooth transition that is supported by consumer confidence.

**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?**

Energy UK agrees that the tRESP will help facilitate, in a non-discriminatory manner, DNO business plans for ED3 in line with its objectives.

It is welcome to see cross-vector stakeholder input being seen as a key input from the tRESP into ED3.

Concerns remain regarding to what extent the needed granular data to facilitate a meaningful tRESP will be fully available by early 2026. This includes on-network data about actual spare capacity at substations and data on the availability of distributed energy assets (DERs) from the currently proposed Asset Register.

**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?**

Energy UK agrees that more focused forward planning of the network can aid in avoiding supply chain and worker procurement constraints. It is for this reason we support Ofgem's proposed Advanced Procurement Mechanism (APM) for ET3.

However, while forward planning of network need is essential, it must be matched by an actual incentive to invest and procure ahead of need. It is likely that a form of APM incentive should also be considered for ED3, especially for more constrained, higher-voltage equipment.

In line with the need for an adaptive pathway planning element in ED3 (see our answer to question 6), such forward procurement plans should sequentially focus on known needed investments first and coordinate procurement of equipment and labour which as a less certain need at the key decision point for securing that material. As mentioned previously, this would require additional upfront inputs to the price control on uncertainty considerations, though the long-term potential for cost reductions and speed of delivery would be considerable.

**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?**

Energy UK agrees that such an approach, centred on an adaptive pathway plan, would reduce lifetime costs and improve the speed of delivery.

Regarding thermal losses, the main solution is specific incentives in ED3 focussed on technologies that reduce such thermal losses on network are essential. Over the past decade, the UK has witnessed electricity losses nearly double its net imports, [averaging 27 TWh lost versus 16 TWh imported annually](#). This makes GB's thermal losses greater than the expected annual energy output of the Hinkley C nuclear power plant.

**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?**

Energy UK believes the 5-year price control remains appropriate overall and for core low-regrets investment, can help improve investment certainty and ease supply chain constraints when combined with insights from the RESPs and a form of APM.

However, more adaptive funding streams activated key 'trigger points' identified at the outset of the price control are necessary to allow for a more flexible and smooth price control during the 5-year period.

**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?**

Energy UK overall agrees with Ofgem’s instinct that the price control needs to incentivise more proactively anticipatory investment in line with the ‘networks for net zero’ objective.

The specific incentives for which load-related investments might be needed require careful consideration. This should be focussed on considering low regrets investment first before considering allowances under various, less certain scenarios.

While DNOs should be incentivised on an output basis for solutions, such as the number of firm connections delivered or capacity expanded, the level of uncertainty about the direction of travel means a more prescriptive approach at the outset of the price control based on assessed uncertainties at the regional level is needed.

This will be a more output-based and intense process than relying more on outputs. However, the need for pathway planning to cope with the myriad of uncertainties at the distribution level necessitates such an approach.

**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?**

Energy UK understands the logic for Ofgem’s distinction between strategic investments being more driven by PCDs and broader anticipatory investment being delivered through output incentives.

While Energy UK believes that more tightly targeted incentives should have a role in ED3, the myriad of uncertainties at the distribution level require a more nuanced approach from the outset of the regulatory period.

To facilitate a more adaptive approach to ED3 (see our answer to question 6), it may be necessary to outline PCDs more specifically for strategic projects that are low-risk investments. For other investments, a range of output-based incentives could be designed for the varying scenarios that could emerge as more information becomes available.

The research to identify these uncertainties and design these incentives for each scenario would be more resource-intensive for DNOs and Ofgem up front. But it would balance out the risk of under-delivery against the risk of over-delivery and sunk costs as well as speeding up delivery times.



**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?**

While more up-front, prescriptive and proactive input-based incentives based on pathway planning are needed in ED3, Energy UK would hesitate to suggest overprescribing the type of network solution beyond what has already been suggested, namely favouring load-related expenditure (LRE) over network flexibility oriented towards deferring vital investment.

**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?**

Energy UK believes a holistic approach to incentivising the various drivers, based on integrated, upfront pathway planning is needed for ED3.

By planning at the outset needed investment once uncertainties become clearer, it is possible to integrate and design the needed drivers for those investments up front.

**Responsible business**

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

To better meet consumer outcomes, outside of the needed obligations to protect consumers, DNOs must orient their business models more towards what the consumer ultimately wants going forward.

Through an adaptive pathway planning approach, a key input would be the potential directions of the speed of consumer LCT uptake in an area. This is especially the case considering that after a certain ‘critical mass’ of consumers on a street or in a neighbourhood switch to using an LCT, take up for all in that area accelerates.

Beyond this, the role that ED3 can play in ensuring positive consumer outcomes is through ensuring robust incentives for key consumer needs like connection. Energy UK welcomes Ofgem’s proposed ‘Connections Timeframe’ incentive for ET3 as part of the Connections End-to-End Review. We would encourage Ofgem to consider a similar incentive for ED3.

Though we recognise the difficulty with creating benchmarks for an incentive based on the speed of the time to connect projects, we believe this issue could be partly circumnavigated by basing the incentive on other metrics. They might include the

number of times connection agreement timelines had to be pushed back due to factors clearly classified as foreseeable by the DNO (see answers to questions 3 and 4). Alternatively, the incentive could be based on the degree to which connections successfully met the CP30 connection technology 'buckets' in time for the 2030 deadline (or 2035 for the SSEP).

Other incentives should focus on penalising DNOs for falling below an established, minimum standard of transparency and communication with their customers as well as stern penalties for being found culpable for a connection delay or failure to adhere to license conditions.

**Q26. What are your views on ED company reporting and the overall transparency of performance and compliance?**

Transparency remains a significant issue for DNOs. This frequently manifests in poor communication with connecting customers, unclear costings regarding connection fees, and unwillingness to be clear with connecting customers on connection timelines or the network design process to facilitate the connection.

Compliance is often an issue brought up by Energy UK members, with DNOs being found in some cases to be attempting to overcharge for works for a connection based on a local team misunderstanding national changes to allowed cost recovery.

Energy UK is also concerned with reporting from DNOs in presenting performance measures like consumer satisfaction surveys as holistic and comprehensive, despite the fact they often suffer from low response rates. How consumers are expected to understand what a high-quality standard of service from networks looks like remains unclear, and establishing a more formal and open approach for connecting customers and wider consumers to feed in issues, concerns, complaints, and praise would be welcome.

**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?**

While it is right for Ofgem to mandate establishing Independent Stakeholder Groups (ISGs), historically, these types of incentive efforts result in a tick-box exercise for DNOs, with feedback and advice rarely turned into meaningful action. These measures are therefore insufficient in isolation to improve consumer and stakeholder engagement.

As suggested by Ofgem, the RESPs present a key opportunity to hold DNOs to account, though this means ensuring that the Strategic Boards and Working Groups

of the RESPs are truly representative and that, proportional but real decision-making power is given to stakeholders. It is not enough for the RESPs to be another talking shop where the DNOs set the pace and other parties are merely consulted with little tangible outcome from such engagement.

As indicated in response to question 25, the use of ISGs must be paired with an adaptive approach that accounts for the possible evolution of consumer needs and desires as well as incentives to connect customers in a given timeframe based on clearly established expectations.

Some Energy UK members have commented on how tight timescales for ET3 caused issues with the quality of stakeholder engagement. Ofgem must be careful to avoid repeating this with ED3.

It is difficult to know how effective ISG's will be. This has also been reflected in the ET3 process. This is made more unclear by DNOs having differing approaches to engagement which leads to differing business plan outcomes, making Ofgem's job harder. This lack of clear process and insights risks creating a postcode lottery between the DNOs. To avoid this, it may be appropriate to deliver Ofgem-led collaborative research.

The initial set-up for the ISGs in ET3 was reportedly difficult. This highlights the need to make regulations and rules clear from the outset for ED3's ISGs.

**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?**

While Energy UK supports the proposed use of research to ensure consumer voices are heard, this is better achieved through responsive and strict incentives and penalties around meeting consumer needs.

Ofgem should look to dedicate more resource to such efforts, as it is difficult to see what the meaningful outcome from such research would be with respect to amplifying consumer voices.

**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?**

One of the reasons aiding and targeting vulnerable consumers is so difficult is the unique and often diverse economic circumstances of individuals relative to their energy consumption.

The DNOs can be incentivised through ED3 to play a more active role in collecting and opening available data on vulnerable consumers across utilities, which would better help inform and target support, while also enabling better coordination with policy measures like the Energy Companies Obligation (ECO).

**Q30. What alternative or additional approaches might we use to ensure that the consumer voice remains central to our policy setting process?**

Ultimately, ensuring the consumer's voice is heard means ensuring the ED3 investment plans are responsive and customer centric.

This is especially pertinent given the expected increase in network costs that consumers will ultimately have to pay.

While Ofgem's shift towards proactive investment ahead of need is welcome, this must be married with a caution against being overly pre-emptive and prescriptive to consumer desires and the form and timing of their uptake of LCTs.

**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?**

Energy UK would ask whether it is appropriate to continue to reward DNOs for a level of service that will need to improve many times over to meet the rapid building needs of wider Government decarbonisation objectives.

The Consumer Satisfaction Survey (CSS) especially is deemed to have failed to accurately weigh and represent the variety of consumer archetypes, made worse by an unstandardised approach to how the CSS is executed and analysed by DNOs.

Indeed, some members feel that it will be less appropriate to reward DNOs for customer satisfaction over-delivering optimal consumer outcomes given the complex nature of essential activities in the coming years DNOs must undertake, not all of which consumers are directly aware of or involved in. While ensuring consumer and stakeholder input will remain essential for DNOs, it is less appropriate than in the past to reward DNOs monetarily based on satisfaction.

More importantly, the approach to the Complaints Metric (CM) needs more nuance than in ED2. At present, the metric has been based on the speed of response. This is an insufficient measure of dealing with complaints and dissatisfaction.

Other considerations could be adjusting the CM to be based on the quality of managing complaints or, perhaps more easily, the incentive can be based on a continuous basis on the volume of outstanding complaints over a set period of time (for example: per month).

**Q32. How should the CVI be adapted for ED3 and should we consider greater alignment with the GD sector?**

Should Ofgem wish to replicate the General Standards of Practice (GSOPs) for customers on the Priority Service Register (PSR) within the Consumer Vulnerability Incentives (CVIs) from the gas distribution (GD) sector, more clarity would be needed on which GSOPs Ofgem wishes to replicate and how it would work.

Ofgem appears to feel that CVIs in the GD sector are overall better than the electricity sector. Whether or not this is true, special care should be given to whether they are suitable in the ED sector and whether more innovative solutions to protect vulnerable consumers are possible as technology develops, and data improves.

If Ofgem intends to have a cross-sector PSR, it must be consistent. The industry also needs to understand timelines for the implementation of such an integrated PSR to ensure it is in place in time from ED3. There needs to be consistency between ED and GD in terms of how they are funded and their guidance on dealing with vulnerability, especially in advising consumers in fuel poverty.

As Ofgem correctly allude to, more data is required to ensure the effectiveness of the PSR and thus the effectiveness of the CVI. While efforts to improve such data through the Data Sharing Infrastructure (DSI) should help, DNOs should be incentivised to play an active role in improving data on vulnerable consumers. Energy UK therefore feel this is where incentives should be focussed.

**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?**

As stated in response to question 32, DNOs can be incentivised to aid energy efficiency policy. The best place to focus these efforts is on the gathering and delivery of open-access data on energy vulnerability.

This should be coordinated through the emerging Data-Sharing Infrastructure (DSI) and can include data on the general geographic scope and scale of consumer vulnerability.

DNOs may also be well positioned to provide data on suggested energy efficiency measures to alleviate consumer vulnerability and costings to feed into economic models.

DNOs may also be well positioned to coordinate wider energy efficiency rollouts across areas in collaboration with suppliers and installers. However, this would require an impact analysis to assess the relative benefits of such an approach as well as a change to the license conditions of DNOs and suppliers.

Should the price control be used to directly fund the installation of energy efficiency measures, an impact assessment should be carried out before assessing whether the increased network costs on energy bills are outweighed by the potential efficiency measures properties can enjoy.

#### **Q34. How can we drive further service improvements under the TTC incentive?**

Energy UK welcomes the recommendations in Ofgem's End-to-End Review to strengthen the obligations on DNOs to meet connection milestones.

The Time to Connect (TCC) incentive for minor connections has failed to sufficiently incentivise DNOs to connect consumers promptly, as Ofgem has recognised.

Regarding incentives within ED3, firstly, the TCC incentive/penalty should apply to domestic connection upgrades to fuse and cutout service cable upgrades including unlooping. These are emerging as essential areas for the connection of a broader range of LCTs in the next few years.

Incentives within the TCC should be adapted to encourage quality connection offers and improved standards of service across the connections journey largely in line with the preferred proposals of the Ofgem End-to-End Review. Ofgem should consider adapting the TCC incentive to incentivise or penalise DNOs based on their performance against the proposed obligations within the End-to-End review.

#### **Q35. Should the TTC also apply to domestic connection upgrades i.e. fuse/cutout/service cable upgrades, including unlooping?**

As in response to question 34, Energy UK agrees that the TCC incentive/penalty should apply to domestic connection upgrades to fuse and cutout service cable upgrades including unlooping. These are emerging as essential areas for the connection of LCTs in the next few years.

**Q36. What is the best approach towards incentivising services to major connections customers and how should the MCI be adapted for ED3?**

Energy UK does agree that the Major Connections Incentive (MCI) should not be penalty only but believes there is a need for the MCI to be less dependent on low sample size surveys.

Instead, it should be linked to the number of applications DNOs submit to NESO for project progression ahead of the next connection window under the reformed connection queue.

Incentives should also focus on DNOs delivering on successfully delivering their portion of distribution system reinforcements on the transmission/distribution boundary, a frequent barrier to connection.

**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?**

Energy UK broadly supports the separate work and proposals set out by Ofgem in its End-to-End Review process.

Concerning the role ED3 can play regarding connection service standards, noting the response to question 34, price controls can be harmonised with the proposed license and/or guidance changes in the End-to-End review to ensure DNOs are sufficiently incentivised to meet their obligations in a timely manner.

For instance, DNOs can be penalised through incentives for failing to progress a major connection to NESO at the next available application window within the reformed connection queue. They can also be penalised for failing to adhere to key agreed timelines and milestones throughout the connection process.

**Q38. In the context of greater electrification, is our current approach towards regulating reliability appropriate for ED3?**

Energy UK believes that the current Interruptions Incentive Scheme has reached the limit of what it can achieve and now has diminishing marginal benefits to consumers.

What is now needed is an incentive to ensure a minimum level of interruption for all customers. This would be a better metric that would ensure no consumer is left behind. Exploring whether that data exists or needs gathering is required. The reliability metrics must match how customers use electricity.



A further measure would be segmenting customer types based on how consumers use electricity given the wide variety of average lengths and the number of interruptions across the country and the plethora of ways future consumers are expected to interact with their electricity. It is no longer appropriate to rely on solely average scores.

For instance, there are an average of 12,000 12-hour interruptions every year that are not captured in the aggregate average measures. This data on that needs better reflection.

Being able to segment consumers and design appropriate service incentives will require more in-depth data to segment consumers by region, interruption length, use of LCTs and demand side response (DSR), the time of year of interruptions, and so on. The DSI should ensure this data is made openly available.

There are also wide differences in how interruptions are reported by DNOs. Ofgem needs to investigate this.

Some in the wider industry have also called for the definition of an interruption to be at least 3 minutes long to be classified as an interruption to be reduced to 1 minute. The initial 3-minute threshold was designed to account for factors outside of the DNO's control. However, with the proliferation of smart networks and more in-depth data across the network, a lowering of the 3-minute threshold is now appropriate.

### **Q39. What role should bespoke outputs and CVPs have in ED3?**

In line with the response to question 6, some bespoke elements in ED3 are necessary to ensure the right incentives are in place for the various uncertainties that can manifest from one region to another.

The bespoke nature of the outputs in ED3 should therefore be focussed on the unique uncertainties that a part of a distribution network may face until a decision point becomes apparent.

### **Q40. How can we optimise late and early competition models for application in electricity distribution?**

Energy UK believes that competition, involving other DNOs, Independent Distribution Network Operators (IDNOs) and other third parties, can have a role in optimising delivery in some parts of the network. This is especially the case concerning the speed of delivery of connections.

Ofgem should investigate a model whereby independent bodies can more freely originate connection designs and the needed reinforcements and directly treat DNOs to connect on behalf of customers.

If a party can successfully negotiate with an existing DNO to invest in their infrastructure, likely under the principle of no detrimental impact to the DNO, they should be able to do so. If this proves commercially impossible, they should be permitted to seek alternate solutions to do so.

The network is highly complex and seeking to mandate a single commercial arrangement from the centre is likely inefficient. Competition for connection solutions can be well adapted to managing the myriad of uncertainties that may manifest at the distribution level over the coming years.

**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?**

Given the myriad of uncertainties and the need for pace regarding distribution development in the coming years, Energy UK believes there needs to be a greater role for bespoke cost assessments in many areas across the network in line with assessed pathway uncertainties.

This can be aided through information provided by the RESPs and the improved visibility of data from the DSI and other initiatives.

While the fundamental bones of cost assessment from ED2 remain appropriate, they should be tempered by assessments of delivery by DNOs against strategic planning objectives.

**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?**

As in response to question 41, Energy UK believes there will need to be a greater role for bespoke cost assessments in many areas across the network in line with assessed pathway uncertainties, as per our answer to question 6.

In line with identifying pathway options against key uncertainties, cost-benefit analysis can be used to assess cost-optimal options against identified uncertainties.

**Q43. Do you agree that the current Real Price Effect (RPE) methodology should form the basis for adjusting allowances in ED3?**

Energy UK agrees that RPEs should form the basis for adjustments to allowance adjustments against the Consumer Price Index including owner occupiers' housing costs (CPIH) using key input indices for DNOs.

Given the current volatility of energy prices, we recommend an [approach to RPE truing up based on Ofwat's Price Regulatory Period 24 \(PR24\)](#). This is based on allowing one of the adjustments *ex-ante* as high prices for inputs emerge, creating forward guidance on allowances based on the projected direction of input prices following that period, before doing a *post hoc* adjustment based on how input costs actually behaved.

**Q44. Do you agree that the current approach to setting the ongoing efficiency challenge is a suitable starting point for ED3?**

Energy UK broadly feels the current structure of efficiency incentives for costs is appropriate. However, this must be an incentive applied after accounting for the need to deliver against strategic plans in incentives and identifying the least cost and most adaptable way to meet those plans.

**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?**

Energy UK broadly agrees with Ofgem's proposed changes to the calculation of allowed returns.

Energy UK would stress the need for the calculation to account for the recent high interest rate and inflationary environment globally while at the same time leveraging the promise of stable revenues for investors. Achieving this balance is key for attracting needed investment while keeping costs low for consumers.

**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?**

Energy UK broadly agrees with the proposed amendments to better ensure the financial resilience of DNOs.

Given the broad need to ensure the key advantage of investing in the DNOs is the stability and low risk of return, it would be appropriate to implement similar reforms to those recommended for the ET, GD and gas transmission (GT) sectors.

**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?**

Energy UK supports Ofgem's decision to change the straight-line depreciation period from 20 years to 45 years as this better reflects the life of DNO assets.

One area, in line with whole system planning, Ofgem may need to consider concerning depreciation is how to distribute and pay for the costs of decommissioning the gas network as electrification progresses.

It may be necessary for a wide range of sources to pool finance to fund the more rapid decommissioning and depreciation of the gas network. This may involve spreading some of the financing over the depreciation period of DNOs.

Ofgem should investigate the suitability and cost-effectiveness of various methods to distribute the costs of gas network decommissioning and the role the distribution price control can play in socialising this cost.

**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?**

There must be a sufficient requirement/ incentive to act on the recommendations of the Market Facilitator promptly and to work productively with the facilitator, the NESO and the broader industry including transparent reporting on progress and metrics.

**Q49. What should the role of the DSOs be in identifying and delivering whole system benefits?**

In addition to the areas highlighted by Ofgem, DSOs must harmonise their flexibility initiatives with wider system planning down to the local level.

This can be incentivised through ED3 by providing specific incentives for delivering flexibility in line with the RESPs.

**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?**

Energy UK agrees that incentives should focus on alignment with strategic priorities. Incentives for enhanced data and digitisation should be linked to these incentives.

**Q51. How can we enable greater development of internal digital expertise in its licensees?**

Energy UK would encourage Ofgem to explore linking digitisation incentives to key drivers of successful digital expertise within firms.

This includes the publication with clear objectives, goals and communication on the reasoning for digitalisation to employees. It also includes incentives to ensure the accessibility of new digital tools, allowing for open digital platforms to allow third parties to DNOs to self-serve, modification of key operations in lockstep with digitisation, and ensuring key roles are staffed with employees with digital literacy.

**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?**

Energy UK would encourage Ofgem to explore incentives for DNOs that enable artificial intelligence (AI) tools in system plans (with appropriate safeguards in place for consumer and commercially sensitive data). Economic modelling tools and system visualisation tools can be optimised with AI, and AI can even present novel and creative solutions to system problems at a pace that historically was not possible.

Key to this will be enabling DNO access to the right granularity and breadth of data and the digital literacy of those developing these models.

Similar solutions can also be used to model OPEX options for DNOs but the incentives for this must be in harmony with wider strategic plans, a 'network-first' approach to incentives and enabling quality service for DNO customers.

**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?**

Besides measures proposed in other sectors that are also being proposed for ED3, Energy UK would stress the need for the Network Innovation Allowance (NIA) to consider a greater focus on whole systems solutions that are cross-industry and cross-vector.

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

The lack of granular data on distribution networks makes assessing the exact nature of challenges facing them harder to identify and thus the best innovation solution to invest in difficult to assess.

#### **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?**

Energy UK agrees that the myriad of uncertainties regarding the development of the distribution network necessitates a more input-led approach to the NARM and its associated incentives.

Energy UK further agrees that the RESPs can help inform these inputs ahead of time.

Nonetheless, given the increasing climate risks to similarly designed assets in comparable manners, this needn't be as prescriptive as approaches to other parts of ED3.

Ofgem should consult on and publish the NARMs in good order well ahead of the ED3 price control as this was a key issue regarding the preparation of the NARMs for ED2.

**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?**

Energy UK would welcome an approach to integrating the incentives for asset health with an adaptive pathway plan approach to planning load-related expenditure.

This could provide a more streamlined and coordinated approach to planning network expansion.

Nonetheless, this effort should be balanced against the risk of conflating incentives for resilience with others.

Integrating incentives through a more input-led approach would be more resource-intensive than existing approaches. It would likely require access to a more in-depth and wider array of datasets from various bodies, including those of experts in cybersecurity and future climate scenarios. Approaches to integrating these datasets into incentives for asset health should similarly be adaptive to various possibilities of climate scenarios and cybersecurity risks where possible.

**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?**

Energy UK supports alignment with the United Kingdom's Climate Projections 18 (UKCP18). Alignment with the government's National Adaptation Plans should be added to ensure policy coordination.

All new assets built need to consider all of the International Panel on Climate Change's Representative Concentration Pathway (IPCC's RCP) pathways across asset lifetime as standard, as part of alignment with UKCP18.

Standardisation of climate adaptation measures should be ensured for network operators to ensure cross-compatibility with approaches.

Alignment with the Climate Change Committee (CCC) and National Infrastructure Commission's (NIC's) findings in upcoming publications should be delivered wherever possible.

Further measures that can fit more effectively into the five-year period is an emphasis on recording and stress testing the network's resilience in real-world conditions to anomalous weather events. Drawing out data and stress testing system resilience to anomalous weather events and unusual conditions is not a substitute for longer-term climate adaptation, but extracting existing data can make modelling for future impacts more accurate. This is a key feature in addressing the lack of data issue highlighted and further stress testing of the system.

Regarding the rest of the approach to climate adaptation, the approach proposed seems appropriate.



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

Please refer to the response to Question 57.

**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?**

Please refer to the response to Question 57.

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

Energy UK agrees with the proposals in this consultation but would highlight that, while SF6 is not subject to EU legislation, there is growing policy pressure to reduce all fluorinated gas emissions.

The Kigali amendment to the Montreal protocol at an international level, the UK's current commitment to reduce all F-gases 79% by 2030 based on 2009-12 base level, and the CCC's recommendation for the UK to match the EU legislation are all combined pressures to reduce SF6 which the consultation does not take into consideration.

Energy UK agrees with prioritising limiting the expansion of SF6 along with the network, but stresses the importance of SF6 reduction overall, including on current networks.

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

While Energy UK understands the reasoning behind the desire to streamline the use-t-or-lose-it (UIOLI) allowance for cyber security planning by shifting to a principles-led approach, Energy UK would caution against this approach.

The number of emerging cybersecurity risks to DNOs is growing at an alarming rate, especially following the emergence of AI and Large Language Models (LLMs).

The International Energy Agency has noted that [there has been a steep growth in the number of cyber-attacks on electricity networks worldwide since 2018](#). They also

correctly assess that plans for cybersecurity by networks have historically been reactive. A more proactive planning approach for cybersecurity risks is critical.

While the current approach to developing cyber resilience plans is a resource-intensive exercise, in an era of growing geopolitical risks and exponentially growing pathways of attack against DNOs, it is worth the investment.

Future incentive systems should adopt the UIOLI approach to consider the risks posed by AI and consider a forward look to how cybersecurity risks to their network might evolve.

Ofgem must not shift to a principles-based structure of incentivising cybersecurity for networks.

**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?**

As stated in our answer to question 11, Key crunch areas, based on [research by Energy & Utility Skills \(EUS\)](#), are L6 Specialist/Engineers, L6 Managerial Staff and L3 multi-skilled craftspeople.

The labour shortage issue is admittedly an issue best resolved through dedicated and coordinated Government programmes to unlock the future labour force for the clean energy transition.

Nonetheless, a proactive and input-based price control can provide more forward guidance and funding for needed labour positions ahead of time, helping DNOs better plan internally for how to improve recruitment years in advance.

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

As stated in response to question 11, [Baringa's analysis](#) in 2024, commissioned by the Government, indicates that the market is already seeing significantly longer lead times (in some cases doubling) of up to 15 months for 33 kV, two years for 132 kV, and four years for 400 kV transformers. It also reported switchgear lead times have doubled. This is partly due to increased demand from other sectors, but also because of the transition to SF6-free, gas-insulated switchgear.

Considering a similar approach to the proposed APM for the ET3 price control can help mitigate these supply chain risks by providing forward guidance on investments. This can help drive down costs as well through improved market certainty. Given the

uncertainties that exist at the distribution level compared to the transmission level, if an APM were to be introduced, it should first focus on known, low-risk investments and the components needed for them.

**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?**

As in response to question 63, a more proactive and input-led price control can help provide anticipatory investment for supply chain components ahead of need.

This would especially be the case if an approach similar to the proposed APM were considered for the ED3 price control, at least for investments that are low risk.

Beyond low-risk investments, there is a risk of stranded assets. This is why an adaptive pathway planning approach should be utilised. Key trigger points for the securing of supply chain agreements, ahead of the emergence of constraints and harmonised with trigger points for when identified uncertainties become clearer, can help create a more strategic approach to supply chain procurement.

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

The RESPs have a key role to play in informing supply chain and workforce needs.

However, the benefits of 'joint tendering' nationally or cross-regionally must also be integrated into approaches to secure the supply chain through the price control. This can help drive down costs through pooling buying power.

Concerning the workforce, integration of the RESPs and ED3 planning process with local workforce initiatives and apprentice programmes ahead of time within regions can help with the fostering of the needed labour force for ED3.