

SSEN DISTRIBUTION RIIO-ED2

# DELIVERABILITY

RIIO-ED2 Business Plan Annex 16.1



Scottish & Southern  
Electricity Networks

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# 1. INTRODUCTION

Testing the deliverability of our proposals has been a core consideration as we've developed our Business Plan, ensuring that our strategic ambition can be translated into a deliverable programme of work that provides a valued and trusted service for our customers and communities.

The National Infrastructure and Construction Pipeline 2021 published by the Infrastructure Projects Authority sets out nearly £650 billion of public and private investment over the next decade signalling the critical role of infrastructure investment in the recovery of the construction sector aligned with the government's plan to 'build, back, better' enabling our transition to net zero. Such investments will lead to pinch points in capacity for key resources across labour, plant, and materials and as such we have considered deliverability throughout our plan, using stakeholder feedback and wider engagement to inform our strategy.

Electrical engineering skills and capabilities are going to be at a premium across the economy in the coming decades as the economy decarbonises including through widescale electrification of transport, heat and industry. In RIIO-ED2, we will embark on a journey to transform our approach to capital delivery, both planned and reactive. We will do this by engaging in longer term strategic relationships with partners to ensure we can secure key resources and provide supply security to deliver the step change in volume from RIIO-ED1 to RIIO-ED2. With this increase in work, we anticipate an increased need to access our network which in turn will likely create greater risk to customer disruption. As a result, we have adopted the principle of touching the network efficiently, to minimise disruption to our customers who have been at the heart of our delivery model development and a key voice for our transformation. As our communities change and adopt new concepts for a net zero world; we reflect our communities and must change to adopt improved practices for the betterment of our customers and our society.

We recognise with change comes risk and have considered and developed response plans as we start to prepare for RIIO-ED2. Across the industry we will need to rapidly grow the workforce in electrical engineering, digital skills, and associated activities (e.g. construction). That is going to be a challenge but also an opportunity. We know that green jobs and purpose driven careers are important to younger workers, and this gives us an opportunity to market ourselves differently and market ourselves to communities currently underrepresented in our sector (this is further detailed in our **Workforce Resilience Annex 16.3**).

We also need to fully exploit the potential of digitalisation and process optimisation to maximise the productivity of our workforce and deliver the most efficient service to our customers.

## 2. SCALE OF THE CHALLENGE

The UN Climate Change Conference UK 2021 (COP26)<sup>1</sup> has started to set ambitious targets to secure global net zero by mid-century and to deliver these stretching targets we will need to accelerate investment in decarbonisation technologies and encourage the switch to electric vehicles. Our plan aligns with this ambition, reflected in our step change increase in asset intervention and creation compared to RIIO-ED1, ultimately delivering net-zero and a sustainable future for our customers and communities. We have converted our ambition into action by accelerating collaboration with our key stakeholders, utilities, communities, and local authorities to deliver on our commitments faster.



<sup>1</sup> Conference of Parties No. 26

### 3. EVOLUTION OF OUR DELIVERY MODEL

We recognise the need to evolve our approach to deliverability in response to the needs of our consumers and the dynamic needs of the industry, enabling the transition to net-zero over the next decade. A linear growth of our current delivery methods will likely create a greater cost efficiency challenge; the increased volume of work will likely translate to an increased need to access our network and will likely create constraints in the capability of the network to absorb the volume of outage, therefore there is a need to change the way in which Capital Expenditure is delivered by maximising on synergies within our network and collaborating with our suppliers to minimise disruptions to customers. We realise the importance of being an intelligent client particularly as we anticipate the future delivery needs within the industry, skills shortages, and load growth which sentiment indicates is likely to come forward. In response we need a flexible delivery model. We recognise that inhouse delivery is important to maintain a core centre of excellence and the ability to be an expert customer, deliver efficiency and create opportunities within our sector, but at the same time we understand we cannot deliver the growth alone – we need to collaborate with partners for flexibility, efficiency, resilience, and innovation.

We established a dedicated team to develop the commercial and deliverability model for ED2, with consideration of future needs with key stakeholders from across our business functions: system planning, asset management, customer operations, engineering design and our change and performance team; supported by our data and analytics team to provide insights which informed our thinking. From our supplier engagement sessions, we recognise that effective work allocation models which enable early contractor involvement and visibility of work banks are critical to drive value for money for our customers and develop a pipeline of the necessary skills. We have used this feedback in conjunction with others to shape our plan (see **Supply Chain Annex 16.2**). As we transition from transactional relationships with our supply chain into more long-term collaborative relationships, we considered cross sector delivery models in other key infrastructure sectors such as rail, water, and aviation industries that have achieved step change increase in volume delivery efficiently and effectively. For example, we have considered publications by the Infrastructure Project Authority, in particular the Transforming Infrastructure Performance: Roadmap to 2030 – drawing on the key transformations for the built environment to drive a step change in infrastructure performance. We have drawn on the key principles from Institute of Civil Engineers Project 13 [ [link](#) ] and evidenced benefits in case studies to inform our approach to delivery – particularly our solution to delivery ensuring this is standardised and interoperable between commercial and domestic customers.

# EXTERNAL VALIDATION OF OUR DELIVERY MODEL

We have collaborated with a range of external consultancies, subject matter experts and practitioners to inform our delivery model, commercial models and supply chain strategy. Recognising the benefit of our Consumer Engagement Group, we believe there is benefit in diversity of thought and a range of challenge from different lenses. This group has contributed to the refinement, provided challenge and validation of our model. We have considered established infrastructure delivery practices, drawing on key principles from energy, rail, water and aviation sectors and also key infrastructure publications from the Infrastructure Projects Authority and Institute of Civil Engineers. We have also collectively pursued challenge for our mobilisation plans, recognising the step change required.

## SSEN SME TEAM ESTABLISHED

We established a Commercial & Deliverability team with key subject matter experts from DSO, Asset Management, Customer Operations, and Procurement and Commercial directorates with reach to other SMEs, such as HSE.

## SUPPLY CHAIN ENGAGEMENTS PHASE 1

We engaged with over 100 suppliers providing immediate feedback at our launch event and subsequent questionnaire responses from more than 50 suppliers, proposing several value levers, with the key themes being:

- Early engagement & programme visibility.
- Consolidating complementary projects and committing to volume & continuity of work.
- Simplifying our processes and seeking alternative commercial and delivery models.
- Continuing to consult with/support suppliers on developing sustainable solutions.

## EXTERNAL COMMERCIAL MODEL REVIEW

We appointed an external commercial SME team to compete an independent assessment of prospective commercial and incentivisation models in relation to our delivery approach. The findings validated our commercial and contracting strategies and correlated with industry best practice across energy, water and rail.

## EXTERNAL PEER TO PEER REVIEW

We presented our Commercial & Deliverability strategy to a peer to peer Board Community consisting of CEOs, senior executives and global leadership teams (Managing Directors, Non-Executive Chairs, Chief Business Officers etc.). The group agreed with our strategy, but highlighted the cultural shift required to enable collaborative working – recognising the need to have the right people in the right place. We have integrated their feedback into the refinement of our approach to delivery models, commercial strategies and considerations for building our capability and capacity.

## CONTINUOUS IMPROVEMENT & VALIDATION

We will continue to test and refine our delivery approach and will consider an independent delivery assurance review before we start work on site in RIIO-ED2.

- **Project Leaders** - Project Leaders was formed to provide clients with a comprehensive project delivery service in the area of large-scale capital programmes for both the private and public sectors.
- **Arcadis Consulting** – A world leading global consulting organisation enhancing performance and predictability of large or complex capital programmes and helping clients procure and transform their supply chain to deliver best value and a better service.
- **CriticalEye** – A peer to peer Board Community for CEOs, senior executives and global leadership teams (Managing Directors, Non-Executive Chairs, Chief Business Officers) from a range of industries and sectors.

## EXTERNAL ASSET MANAGEMENT REVIEW

We appointed an external SME to validate our Asset Management practices, successfully, against ISO5500. The review endorsed our Commercial and Deliverability approach in planning ahead for successful delivery whilst providing an opportunity, and the right drive, to build planning capability.

## EXTERNAL CAPITAL DELIVERY SME EMBEDDED

We embedded an external capital delivery SME to shape and challenge our delivery model. This organisation has comprehensive project delivery expertise in the area of large-scale capital programmes for both the private and public sectors. Having successfully delivered Thameslink – Blackfriars Station Redevelopment, introduction of FTN/GSMR system to rail infrastructure and published approach to deliver step change in capital delivery. They provided a operational strategic review to optimise delivery, building on key themes from the Asset Management Review review; challenged, refined and endorsed our GSP approach.

## EXTERNAL PROJECT, PROGRAMME AND PORTFOLIO MANAGEMENT ASSESSMENT

We also appointed an external SME team to evaluate our Project, Programme and Portfolio management capability. This was benchmarked against key infrastructure organisations, where learnings of 46 other transformation change projects were considered. We have identify key change drivers to achieve an improved maturity target, enabling our delivery approach and informing our mobilisation plans.

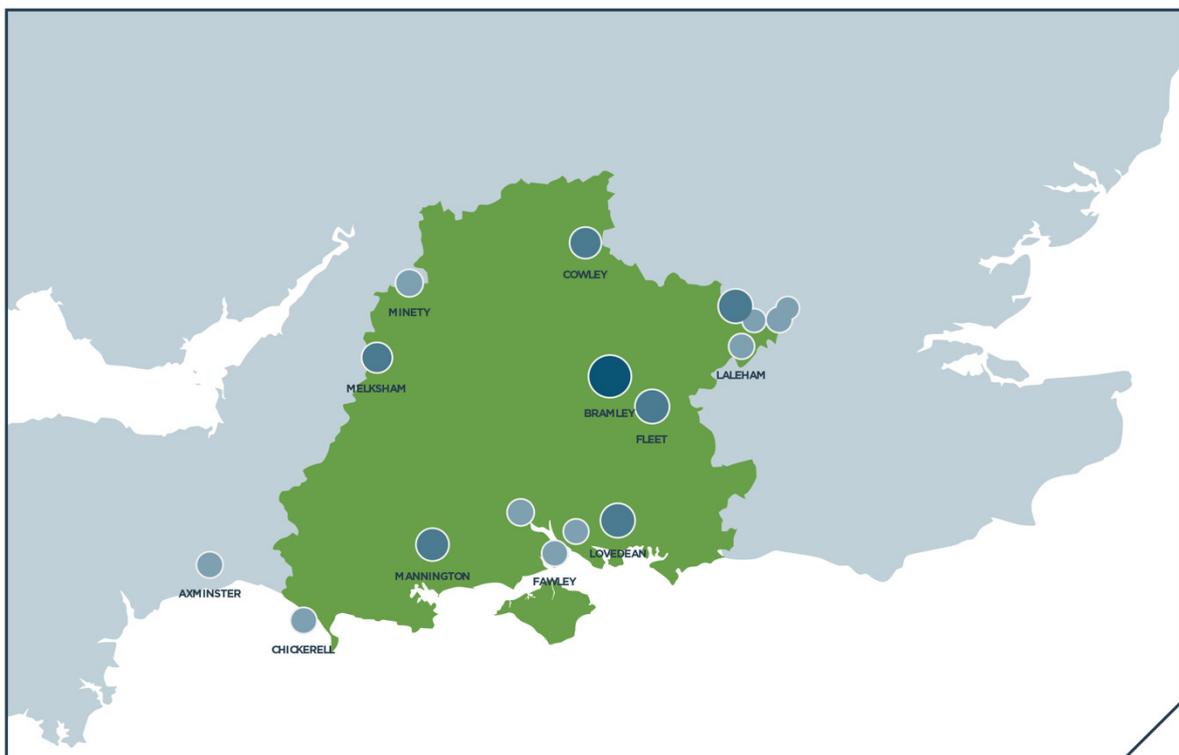
## SUPPLY CHAIN ENGAGEMENTS PHASE 2

Our Phase 2 of Supply Chain engagement tested the attractiveness product and explored in detail the value levers which refined our model;

- We understood (i) capabilities & appetite to support our ED2 delivery approach and volumes (including UM); (ii) abilities and strategies to meet the industry resourcing challenge; (iii) insights to how other DNOs/infrastructure organisations collaborative and deliver.
- Sustainability survey (80 suppliers) and 1-to-1 interviews (15 suppliers) that have informed our Sustainable Supplier Code.

Our RIIO-ED2 **Digital Investment Plan (Annex 5.1)** provides the platform for digital transformation, enabling an integrated approach to our Customer Operations and Asset Management functions by investing in best practice tools and systems, providing us the ability to collaborate with our partners. We also detail investments critical to developing new capabilities and improving our existing IT systems to move to a fully digitalised business for the betterment of our commercial and domestic customers. Without such investments we risk our deliverability of the overall Business Plan and lessening customer experience.

In RIIO-ED2 we will capitalise on the synergies within our network and will use the connectivity and structure of our network to form points at which we can consolidate work, using Grid Supply Points (GSPs) as common denominators to create geographically concentrated work banks across our network; allowing us to capitalise on economies of scale within the Supply Chain.

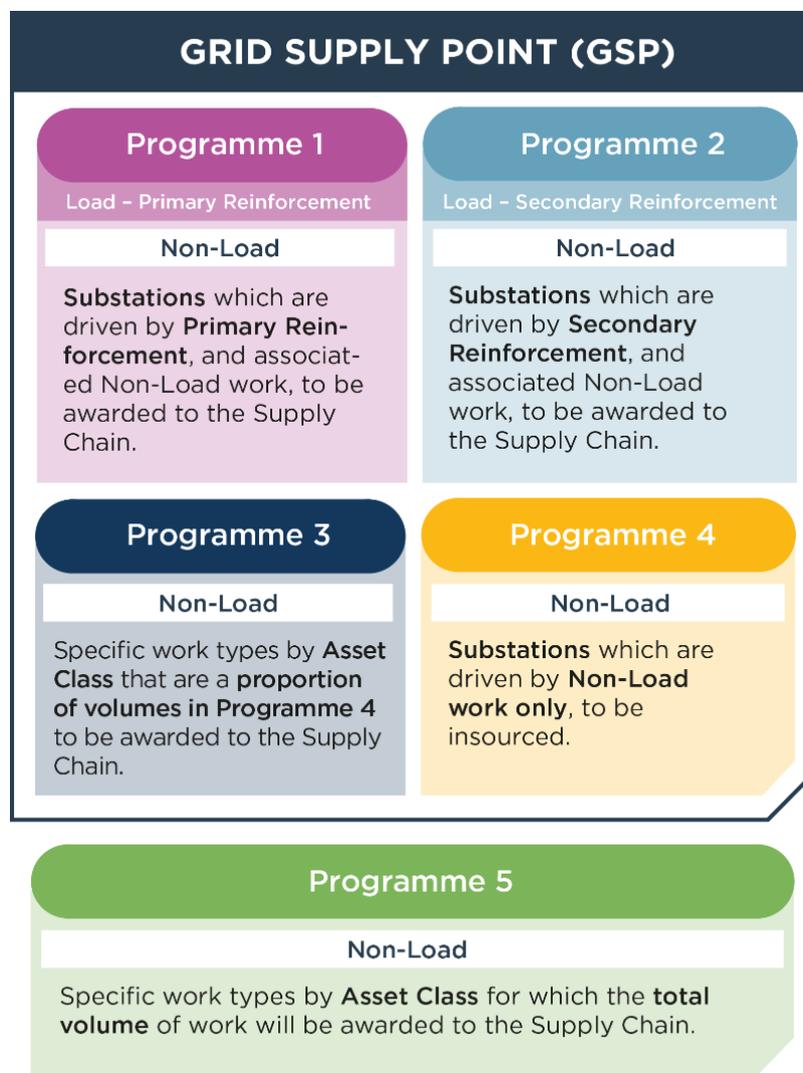


Recognising the multidisciplinary nature of work, we will create five programmes of work, of which four will be contained within a given Grid Supply Point.

- Programme 1 is driven primarily by 33kV and 132kV Load work and consolidates all the associated work required at that substation.
- Programme 2 is driven primarily by works at 11kV and below and similarly consolidates all the associated work required at that substation.

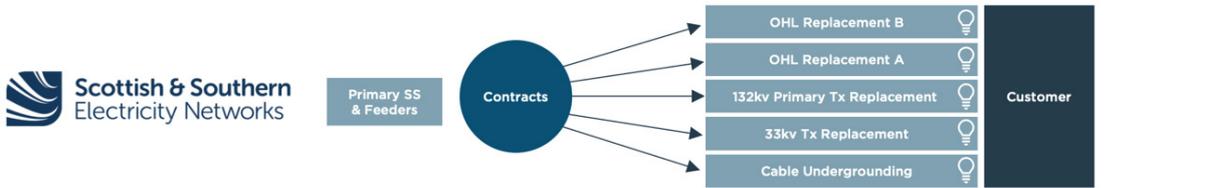
- Programme 3 isolates specific types of work we recognise as being specialist and propose to create dedicated packages to be awarded. For example, delivery of our environmental commitments for FFC and SF<sub>6</sub> are important and therefore we target these interventions separately.
- Programme 4 combines substations and work which will be delivered inhouse through dedicated teams for the delivery of Polychlorinated Biphenyls (PCBs) and repair, maintenance activities and our renewals projects.

We realise not everything falls into the GSP model, and therefore created a Programme 5, which creates packages of work that require particular attention. For example, a dedicated team and supplier to deliver Rising & Lateral Mains (RLMs) , LV Overlay and Tree Cutting.



## NETWORK OUTAGE PLANNING BEFORE & AFTER

### OUTAGE PLANNING BEFORE



Integration and coordination of works is limited through several contracts based on asset class delivery, and therefore more challenging optimised delivery plan.

### OUTAGE PLANNING AFTER



In RIIO-ED2 we will deploy an integrated delivery planning function to develop a deconflicted plan which maximises outage utilisation working together with our delivery partner to touch the network efficiently.

Our approach will capitalise on synergies between often reactive new connections work and strategically planned Load and Non-Load work (see **Supply Chain Annex 16.2** for more information on the evolution of our connections framework), whereby the associated downstream work from a Substation will maximise outage utilisation, enabling the programme to touch the network in a controlled and efficient manner. We utilise our system planning function to influence the planning and phasing of work within a given programme to understand where work can be completed in parallel and which substations are mutually exclusive without putting the network and customers at unnecessary risk, ensuring alternative feeding capacity is available which in turn minimises disruption to our customers. This will enable us to create a forward-looking deconflicted plan that can be continually refined, but importantly allows us to provide visibility to our customers of planned work or disruptions. We will enable this through our investments in Distribution System Operator (DSO), the Constraint Managed Zone (CMZ) suite of tools and systems to support the network during network faults and during planned outages which will be supported by our Advanced Distribution Management System (ADMS+) and Connectivity++ systems (see **DSO Annex 11.1**), as well as our Outage Notification systems development (**Customer Experience Strategy Annex 4.1**).

Our increase in Totex between RIIO-ED1 to RIIO-ED2 is ambitious and will enable our communities to transition to a sustainable future. This increase in asset intervention does not necessarily mean more customer disruption because not all our work types will impact our customers, and our delivery approach will ensure we are effective and efficient to achieve our outcomes. Our primary driver to moving towards a GSP approach is for the betterment of our customers.

In RIIO-ED2 we will collaboratively develop deconflicted plans to provide visibility of our work in the short, medium, and long term which will allow early engagement to coordinate with Local Authorities and other utilities early to influence our plans (see **Whole Systems Annex 12.1**). For example, we recognise there are step changes in certain areas of our non-Load plan in RIIO-ED2 such as Tree Cutting and Overhead Line Clearances where we are using Lidar tree proximity data together combined with spatial data to prioritise our programme of work and by taking a risk-based approach, we are enabling efficient and effectively delivery.

The table below sets out how different types of work (at different voltage levels) could potentially impact customers, how we manage access to the network and the mitigations we have already and are implementing throughout RIIO-ED2 to minimise customer disruption:

|                 | LV   | HV & EHV  |
|-----------------|--|---|
| Customer Impact | <ul style="list-style-type: none"> <li>Typically, low complexity work with a small number of customers downstream.</li> <li>Enhanced services for our vulnerable customers (see Annex 4.2).</li> </ul>   | <ul style="list-style-type: none"> <li>Our GSP approach will reduce the number of times we visit an asset and therefore reduce the frequency of potential disruption.</li> <li>For EHV work we envisage reduced customer impact because we will utilise interconnectivity within the network.</li> </ul>  |
| Network Access  | <ul style="list-style-type: none"> <li>We will manage network access locally through our priority services register, Customer Relationship Managers, and project specific communications to impacted customers.</li> <li>Our approach will be both tactical and strategic to enable delivery of a diverse range of work and will view this throughout customer experience journey (see Customer Annex 4.1)</li> </ul>  | <ul style="list-style-type: none"> <li>We have developed long lead considerations such as consenting and wayleaves into the phasing of our plan (for an example see Load Annex 10.1).</li> <li>We have established control process and procedures for controlled access to our network.</li> </ul>  |
| Mitigations     | <ul style="list-style-type: none"> <li>Where applicable, we will utilise LV back-feeds to protect our impacted customers.</li> <li>For our vulnerable customers or those that could experience prolonged outages we will provide generators (see Annex 4.2).</li> <li>We will engage and coordinate with Local Authorities such as the GLA to provide visibility of our works, optimising with other utility works and mitigate any disruption, our programme level approach will enable this (see Whole Systems Annex 12.1).</li> <li>Our RIIO-ED2 IT and digital investment support the improvement of the customer experience e.g. Outage Notifications (see Annex 5.1).</li> </ul> | <ul style="list-style-type: none"> <li>We will utilise our network configuration and back feeding arrangements to de-risk asset interventions.</li> <li>Our engagement with flexibility suppliers supports a smooth delivery profile via our outage management flexibility products (Annex 11.1).</li> <li>Our investment in DSO products provide a digital approach to outage management.</li> <li>We will provision backup generators particularly in SHEPD for our rural and islanded communities (see Scottish Islands Annex 8.1).</li> </ul> |

The programme model considers integration and coordination boundaries to limit risk exposure between different delivery parties, be that outsourced or insourced teams. The substations within programmes 1, 2 and 4 are discrete and contained within a given GSP, with each programme being delivered by a respective Principal Contractor without intersecting. The outage planning associated with the three programmes of work will be enabled by our system planning function.

The substations contained within Programmes 3 and 4 are not discrete and will require coordination, managed through our integrator. This delivery model provides a scalable solution considering delivery by asset class, for specialist works and larger multidisciplinary programmes.

We have started to see early benefits of our coordinated approach having avoided an estimated £5m of costs associated with volumes for both Load and Non-Load work across our Network Asset Risk Metric asset categories. We have also added 1,180MVA of capacity to the network through the uprating of the transformers Non-Load would replace, uprating them to meet future demand and mitigate future load related investment.

We acknowledge that our two license areas (SEPD and SHEPD)<sup>2</sup> operate in different landscapes with unique delivery challenges and therefore accept that one size does not fit all. In SHEPD we will continue to deliver more work through our inhouse delivery teams and use our supply chain partners to smooth delivery peaks. For our atypical asset interventions, such as subsea cable renewals we will establish standalone programmes of work with incentivised commercial models for effective delivery. Where applicable, we will adopt the most appropriate principles and programmes considering the specific needs of our license areas.

We expect significant increases in the number of connection requests in RIIO-ED2, with more customers seeking to connect Low Carbon Technologies (LCTs). Our digital investments together with our improved Customer Relationship Management (CRM) system in RIIO-ED1 will integrate to provide a comprehensive customer journey. This will enable us to manage greater volumes of requests whilst continuing to deliver key outputs for our customers (see **Connections Annex 10.2**).

We are going to move towards a more standardised approach to our work. We have considered the risk and complexity of our portfolio as we look to accelerate the delivery of our low complexity works and are currently trialling design by exception projects for improved time to site at reduced costs, enabling quicker delivery without compromising safety. Our work to standardise design and specifications will continue into RIIO-ED2 and will contribute to our risk and value processes.

We have validated our delivery model through extensive supply chain engagements to ensure its attractiveness to the marketplace (see **Supply Chain Annex 16.2** for more details). Having also stress-tested our model with industry leaders across key infrastructure sectors we have integrated feedback and will continue to refine this ahead of RIIO-ED2. We have adopted principles from established delivery models and have demonstrable benefits but recognise we will need to mature into these.

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<sup>2</sup> Southern Electric Power Distribution & Scottish Hydro Electric Power Distribution

## 4. COMMERCIAL STRATEGIES

We know from our stakeholders that value for money can be achieved by providing the supplier visibility of the work, reducing mobilisation times and collaboration improves performance across all levels. However, an effective work allocation model requires a corresponding, robust commercial strategy that incentivises the supply chain for better delivery, safety, and sustainable performance.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Recognising the flexible and diverse need for different types of work we have allocated bespoke commercial strategies associated with each package of work, across a spectrum of collaboration and in our strategic collaborative agreements we will use long term committed volumes as a foundation to work with our key partners to also develop a pipeline of future key skills. We will become more intelligent in our risk apportionment using a common approach with our supply chain; ensuring the best party is placed to control or manage the risk. For example, as we develop new contracting strategies, we have adopted ‘design and delivery by the same’ principles (where applicable) – this acts as both an incentive mechanism to reduce any overengineering and removes the need to transfer design liability or manage interfacing contracts (see **Supply Chain Annex 16.2**). We have also considered Uncertainty Mechanisms (UMs) within the deliverability of our plan and will continue to refine and monitor the need for our UMs as our confidence in the work mix becomes mature in RIIO-ED2. We will also continue to monitor these requirements periodically to ensure we can prepare for early visibility and hence secure the relevant plant, material, and labour for assured delivery. For example, for our Ash dieback removal UM we propose to complete surveys within the first two years of RIIO-ED2; we will continue to review and assess survey outputs to enable effective delivery (see **Uncertainty Mechanism Annex 17.1**). We have taken both a strategic and tactical approach to the formulation of our UMs. For example, we have moved the last three years of our LV and HV investment into UM because we recognise the shorter lead time activities such as reduced access constraints and standardised designs. We will however continue to assess our Load requirements through RIIO-ED2, by evaluating the Future Energy Scenario (FES) and Distribution FES outputs, engaging with Local Authorities regularly to support the level of certainty (see **Whole Systems Annex 12.1**). Lastly, our Opex Adjuster UM considers the operating expenditure that would be required to deliver the work in specific UMs.

We have also tested our UMs with our Supply Chain to provide confidence in their delivery and will develop dedicated commercial strategies to enable efficient delivery (see **Supply Chain Annex 16.2**).

We have considered an approach to the management of third-party risks to our delivery such as land access, planning environmental assessments and others – because we are taking a holistic approach to our forward planning in both the short and medium terms, we have a view of requirements and therefore will engage with authorities more efficiently to develop deconflicted plans. We will also have a more consolidated view of risk through our Portfolio, Programmes and Projects. For our plan, we have considered complexity and consenting lead times into our load plan as part of our refinement between draft and final. We will actively engage with utilities, the GLA and other stakeholders as part of our delivery planning (see **Whole Systems Annex 12.1**).

We understand the deliverability challenge of our plan and are aware that there will be certain delivery constraints, as a result we have captured “flexibility opex” benefits in relation to a proportion of our load schemes. Following our “flexibility first principle”, for certain schemes it is most cost effective for all consumers for us to set a higher maximum threshold for our flexibility price. In these specific cases, reinforcement is required early in RIIO-ED2 based on our demand forecasts and the work volumes exceed our realistic delivery capacity (in-house and outsourced).

There are certain unit costs where we have historically performed below UQ from a benchmarking perspective. Based on our engagement with our supply chain we believe that we can bake in certain efficiencies into our RIIO-ED2 unit rates to reflect the economies of scale associated with certain high-volume asset classes, particularly where our RIIO-ED2 volumes are a significant increase from RIIO-ED1. For example, we have reflected these efficiencies in our non-load HV poles and non-load UG cables (see **Cost Efficiency Annex 15.1** for further details).

Our Deliverability Strategy will be key to achieving our stretch ongoing efficiency target of 0.7% pa.

## 5. INSOURCE/OUTSOURCE MIX

Through our key stakeholders from across the business, we have taken a strategic review and identified our core internal skills for RIIO-ED2 measured against existing and future capacity; having evaluated our sourcing mix where there are known delivery constraints to assess opportunities to alleviate any constraints through outsourcing.

We have considered the insource vs. outsourced RIIO-ED1 delivered unit cost information to inform our mix recognising the level of in-house resource required for reactive and critical activities to ensure capacity for storm days and return to service performance.

We recognise the need to mobilise time bound activities early and appreciate that certain types of interventions (such as PCB Pole Mounted Transformers) require a dedicated customer experience approach and as such have established dedicated end-to-end delivery teams for improved planning and execution of work, for the betterment of our customers. We have also considered the benefits delivered through our continuous improvement initiatives, particularly our insourcing initiatives *and* will continue to evaluate and develop in RIIO-ED2. We have refined our in-house workforce capacity and skills constraints based on our planned recruitment and training profile and planned sourcing mix as well as the efficiencies we have built into our Business Plan. We know we will need to increase the size of our workforce and add new capabilities to enable the delivery of our plan, these include additional entry points to our business, providing opportunities to increase access for new trainees to a wide range of roles – We have committed to growing apprentice numbers by 25% (see **Workforce Resilience Annex 16.3**), as well as expanding our training school capacity (as captured in our EJP 26\_SSEPD\_NLR\_PROPERTY). We have also considered the diverse skillset required to manage our outsourced programmes of work, in particular strong project management and commercial management competences. We have aligned ourselves to the relevant professional bodies to ensure we have both the competences required and a clear development pathway (see Workforce Annex 16.3).

## 6. THE CHANGE CHALLENGE

We recognise the change challenge required to support more collaborative working and a programme approach but firmly believe this will provide the best outcomes for our consumers and communities evidenced by our Supply Chain insights, wider consultations, and cross-sector case studies. Having appreciated the level of business change associated with this strategy to establish new ways of working and the cultural and behavioural change required; the transition will take time, as we grow our capability and capacity and as such this is reflected in our ongoing efficiency – our plans and thinking are not limited to RIIO-ED2 but consider the maturity and capability required in the long term for RIIO-ED3 and beyond to achieve net-zero. In response, we have established our ED2 Mobilisation Programme to prioritise improvements and activities for the start of RIIO-ED2.

Considering the cultural and behavioural change required to enable our new ways of working we will identify champions for all new approaches to be delivered, including personas and practices. Separately, we will continue to transition within RIIO-ED2 to enable our programme delivery approach. We are reviewing our process and procedures, tools, and systems to facilitate improved outcomes for our customers. Our investment in new tools and systems as part of our digital strategy provides the foundation for collaborative working and planning of our programmes, and our investment in the C&D Tools & Systems will provide the technological platform to enable our commercial delivery strategy. (See **Digitalisation Investment Plan Annex 5.1**); enabling us to become the client of choice and deliver improved post contract management. We recognise that having the right competence to manage such a diverse range of programmes and projects are critical to the success of our strategy and our Workforce Resilience Strategy and our People Programme have already identified this need and work is on-going in parallel.

## 7. WIDER DELIVERABILITY CONSIDERATIONS

Between our draft and final business plan, we have evaluated the risk and complexity associated with each of our named schemes and considered the specific lead and delivery timelines. For our named load schemes, we have carried out flexibility assessments at all voltage levels to understand when we can defer reinforcement through paying for flexibility services, therefore ensuring our investment profile is deliverable and at the lowest cost to consumers (see Load Plan Annex 10.1). Through its innovative CMZ initiative in 2016, SSEN Distribution was the first UK Distribution Network Operator (DNO) to introduce Flexibility Services and it continues to lead in the delivery of flexibility across the GB Distribution networks. Thanks to our ongoing commitment to ‘flexibility first’, our improving systems and supporting processes, and the evolving Local Energy Markets, we now field over 600 MW of Flexible Service contracts across our two Distribution licence areas. Strong progress has been made in RIIO-ED1 to reduce the risks of utilising Flexibility Services to defer or avoid network investment and our RIIO-ED2 plan builds upon that progress, learning and experience. Examples of this are;

- Forecasting and data – The ability to forecast when flexibility will be needed and what value it has compared to traditional alternatives is essential in managing risk. Utilising the ENA Common Evaluation Methodology which has been designed specifically to assess optimum deployment of flexibility and reinforcement gives greater confidence in the value and applicability of Flexible services against a broad range of growth scenarios.

Should forecasts be lower confidence the ability to model incremental blocks of 'over procurement' to avoid network risk while maintaining commercial viability can also be undertaken. Lastly, our Local Energy Oxfordshire (LEO) project is also exploring how combining interactions in advanced, week ahead and real-time markets when forecasting confidence is low, medium and high, could offer the right balance in managing network risk and providing adequate market incentives while avoiding the need to over procure services. Our Connectivity+, Connectivity ++ and ADMS+ Investment Decision Packs (IDPs) will enable more advanced network visibility and modelling to support greater Flexibility service opportunities in RIIO-ED2.

- Commercial and contracts - SSEN have led on the development and implementation of an industry Common Agreement for flexibility services through the ENA Open Networks project WS1A P4. The Common Agreement, informed by all UK DNOs and the Electricity System Operator (ESO), is now in its third revision since inception and will now be utilised by both DNOs and the ESO, meaning all flexibility providers across the UK will experience the same contract and clauses regardless of their geographical location, the services they provide and the Network Owner or Operator they provide them to. Further to this, SSEN has applied a Dynamic Purchasing System to support more efficient procurement and contract management processes to its Flexible Services suite. Our ED2 IDPs on LCT Analytics, Market Half Hourly Settlement (MHHS) and Commercial Optimisation will enable advanced commercial interaction, advanced market interaction and visibility in ED2.
- Systems – Acknowledging that the scaling up of Flexibility poses a significant challenge, SSEN entered a collaboration to onboard and develop the Flexible Power system. The system, originally produced by Western Power Distribution (WPD) is now being developed by five DNOs (WPD, Scottish Power Energy Networks, Northern Power Grid and Energy North West Limited). The system is designed to improve efficiency and scalability of flexibility service implementation, providing greater visibility of and interaction with Flexibility Service providers, as well as offering an improved customer experience, contract management and settlement functions. Our ED2 IDPs on DSO Management, DSO Enablement and DSO Flexibility will further support growth in the management and delivery of Flexibility Services in ED2.

We have also refined our non-Load phasing to ensure this is deliverable by prioritising our investments in time bound activities in the early years considering both risk and complexity to ensure our customers realise benefits early. We have established standalone teams and bespoke commercial models for our non-Load investments so that we can deliver value for money. Where we have a step change in non-Load volume increases, we have considered deliverability of these interventions to ensure they are deliverable (see **Safe and Resilient Annex 7.1**). We have assessed the UK skills market in light of the significant major infrastructure programme in the next decade and as such will consider a range of options including outsourcing design globally to enable our plan.

The planning and deconfliction of our works are fundamental to having a deliverable plan which is why we will continue to participate in open data enabled planning partnerships- we will work with other utility companies and Local Authorities to deconflict work, capitalise on single interventions, reducing disruptions to our customers and local communities. We are already doing this alongside the Greater London Authority for the London Underground Asset Register initiative enabling us to coordinate with our utilities and local authorities (see **Whole Systems Annex 12.1**)

Based on our assessment of delivery constraints and potential solutions to resolve them, we have revised our investment phasing accordingly to ensure our Business Plan is deliverable, meets our consumers' needs and is most cost efficient for our consumers. We have engaged our supply chain (detailed in **Supply Chain Annex 16.2**) to explore how the supply chain could support us to efficiently deliver greater volumes of work and how we could implement a range of commercial strategies to support. We have also engaged with the supply chain on the delivery of work volumes that sit within Uncertainty Mechanisms to ensure we have plans in place to deliver this work if, and when the need arises. We have assessed the synergies between our planned load, non-load, and environmental investments to plan the scheduling of work most efficiently and minimise disruption to consumers. As we transition to our new ways of working, we will continue to refine our delivery model using incremental feedback of proof-of-concept projects, ensuring we are able to measure benefits as we continue to test for efficiencies.

## 8. CONCLUSION

We are aware of the current challenges within our industry and the constraints that are likely to develop both within the Supply Chain and our ability to ramp up our workforce and skills at the required rate.

In response, we have developed a robust delivery approach with consideration of our plan as whole and its key component parts. We have used established capital delivery methods across key infrastructure sectors and employed principles from industry best practices such as publications by the Infrastructure Projects Authority. We have externally tested our approach (for the delivery of both our baseline plan and our proposed Uncertainty Mechanisms) with a diverse range of stakeholders using their challenge to refine and mould our approach with consideration of our customer journey and our local communities. The reason for our change is driven by the need to deliver improvements and greater volumes of work and network interventions whilst minimising disruption to our domestic and commercial customers.

We recognise the differences in our SEPD and SHEPD license areas and have developed bespoke approaches. We have also considered complexity and risk factors such as long lead times for consenting and wayleaves to influence our load and non-load phasing to ensure our plan is deliverable, as well as applying our “flexibility first” approach to smooth the profile of work Our Uncertainty Mechanisms proposals (**Annex 17.1**) also recognise the need for automation and lead times to ensure they are deliverable.

Our evolved workforce and supply chain strategies enabled by our digital investments, will unlock value for our customers and ensures the deliverability of our plan. Our approach will mean that we have sufficient indicators, lead times and optimisation across investment drivers to enable the efficient delivery of our plan, whilst minimising customer disruption.