

RIIO-ED2 Draft Business Plan Guidance

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This document sets out the information that should be included in electricity distribution network operators' Business Plans and how we propose to assess those plans. Stakeholder views on this draft guidance have been sought via the RIIO-ED2 Sector Methodology Consultation.

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1. Introduction

- 1.1. In the RIIO-ED2 price control, we will set regulated revenues and required outputs for the electricity distribution network operators (DNOs). In order to do this, we need information from the companies on the activities that they intend to undertake in RIIO-ED2, and their associated costs and outputs. Companies will provide this information to us in the form of a Business Plan, which we will then assess. Companies may earn a reward or be penalised based on our assessment of their plans.
- 1.2. RIIO-ED2 will last for five years, starting on 1 April 2023. The DNOs will submit draft Business Plans to the RIIO-2 Challenge Group on 1 July 2021 and final Business Plans to Ofgem on 1 December 2021.
- 1.3. In developing their plans, it is essential that companies carry out robust and high quality engagement with their stakeholders.¹ Through the enhanced engagement framework, companies should also engage with the RIIO-2 Challenge Group and the Customer Engagement Group (CEG) that each company has established.
- 1.4. This document sets out the information that we propose should be included in companies' Business Plans and how we propose to assess those plans.

¹ By stakeholders, we mean individuals, organisations or communities that are impacted by the activities of the network company. Stakeholder engagement should consider the needs of existing and future consumers.

2. An open and transparent approach to Business Plans

Track-record and Business Plan commitment

- 2.1. In assessing Business Plans, we will consider how deliverable we believe the plans to be in the context of past performance and the level of commitment provided for delivering the outcomes set out in the plan.
- 2.2. For the avoidance of doubt, we will not be assessing RIIO-ED2 Business Plans on the basis of past performance. However, we believe it is appropriate for us, and for other stakeholders, to consider proposals for the RIIO-ED2 period in the context of each company's past performance.
- 2.3. Therefore, the Business Plan must include an explanation of:
 - delivery against RIIO-ED1 output targets and incentive mechanisms including, where appropriate, how performance compared against any targets/ambition declared by the company in their final RIIO-ED1 business plan. This should include an explanation of performance in the areas of: Connections (Time to Connect Incentive and Incentive on Connections Engagement), Social Obligations and Customer Service (Customer Satisfaction Survey, Stakeholder Engagement and Consumer Vulnerability Incentive and Complaints Metric), Reliability and Availability (Customer Interruptions and Customer Minutes Lost under the Interruption Incentive Scheme), Environment (Business Carbon Footprint, SF₆, fluid filled cables, management of losses and the use of the visual impact allowance) and Safety.
 - how expenditure within the control period has differed from allowances set at the outset of RIIO-ED1.
 - what factors contributed to differences between allowances and expenditure, and how these factors have been considered in preparing the RIIO-ED2 Business Plans.
 - the returns companies earned over the RIIO-ED1 period, and key drivers behind these returns. These should be expressed in terms of Return on Regulatory Equity (RoRE).
 - the level of profit payment distributed to investors over the RIIO-ED1 period.

2.4. Our assessment will also take into account the level of commitment given in the plan for delivering the outcomes it contains. The Business Plan should set out:

- how the company intends to align the structure of pay and reward within the organisation to the delivery of commitments set out in their Business Plans; and
- how the company identifies and avoids any impact on consumer bills, such as impacts related to additional or delayed costs caused by RIIO-ED1 performance, such as deferral of work.

2.5. The Business Plan should set out the assurance that has been provided by sufficiently independent directors that the plan and associated costs have been tested for accuracy, ambition and efficiency.

Giving consumers a stronger voice

2.6. We expect DNOs to work with their CEGs and the RIIO-2 Challenge Group to seek challenge and scrutiny of their Business Plan proposals.

2.7. Business Plans should set out how they have been designed using the enhanced engagement processes. To do this, Business Plans must include evidence of:

- appointment of CEGs – including timely appointment of groups, governance arrangements at appointment and on an ongoing basis, among other things as described in the enhanced engagement guidance document.²
- effective engagement with CEGs and the Ofgem RIIO-2 Challenge Group. In assessing this, Ofgem will take into account the extent to which effective engagement has been facilitated by companies providing drafts of their Business Plans in July 2021 that reflect the Guidance in place at that time.
- robust and high-quality engagement with stakeholders by the company in designing the plan.

² [Enhanced Stakeholder Engagement Guidance for RIIO-ED2 - Version 1](#)

- 2.8. Additionally, in order to facilitate stakeholder engagement ahead of the planned open hearings, each company should publish its final Business Plan on its website. In doing so, companies should ensure maximum transparency by publishing the plans in as full a form as possible. Where companies exclude information from the published plans on grounds of commercial confidentiality (or any other reason), the reasons for such exclusions should be clearly and comprehensively set out in an explanatory statement published alongside the plan. For example, if information is redacted on grounds of commercial confidentiality, we would expect to see an explanation of the particular commercial interest that the company considers would be prejudiced by disclosure. In assessing the company's compliance with the minimum requirements on enhanced engagement set out in paragraph 2.7, Ofgem will take into account stakeholder feedback it receives on the level of transparency demonstrated by companies and reasoning given for any exclusions amongst other relevant considerations.
- 2.9. Separately, the Business Plan must set out the company's approach to ongoing stakeholder engagement in RIIO-ED2, including a strategy for engagement as well as a set of proposed commitments to deliver the strategy within RIIO-ED2. Each company's strategy should:
- be strategic and proportionate, including through setting out how the company's approach reflects the particular circumstances of the company's geographic regions and its various network users, both domestic and industrial.
 - be inclusive of all stakeholders, including through a consideration of the needs of both existing and future consumers and hard-to-reach groups.
 - be responsive to stakeholder needs, including through setting out how the company will maintain an up-to-date understanding of stakeholders' needs as well as how it will ensure views are captured and incorporated into the day-to-day operation of the business.
 - be ambitious, including through setting out how the company has established performance commitments which are appropriate, well-evidenced and stretching.
 - be transparent, including through setting out how the company will measure progress against its commitments as well as any consequences of non-delivery of commitments.

- show how it will deliver outcomes that network users and consumers value at a price they are willing to pay. The plan should provide evidence that costs associated with the delivery of commitments are efficient and provide value for money. This should include consideration of resource commitments to support engagement.
- demonstrate senior-level buy-in and that engagement runs through all levels of the organisation.
- incorporate and build on the best practice methods learned in RIIO-ED1 and consider best practice methods employed in other industries.
- include RIIO-ED1 engagement initiatives as business as usual (BAU) activities.

3. Delivering value for money services for customers

Introduction

3.1. In our RIIO-ED2 Framework Decision, published in December 2019,³ we stated that we would consolidate the six RIIO-ED1 output categories into three consumer-facing output categories. These are:

- meet the needs of consumers and network users.
- maintain a safe and resilient network.
- deliver an environmentally sustainable network.

3.2. We also set out our overarching framework for outputs and incentives to deliver these outcomes. It said that we will:

- set minimum standards of performance which we will impose through the introduction of Licence Obligations (LOs).
- capture outputs directly associated with baseline funding through Price Control Deliverables (PCDs).
- apply Output Delivery Incentives (ODIs) where these may be in the interests of consumers and other network users.

3.3. The Business Plan must set out the outputs the company will deliver in the RIIO-ED2 price control period and identify how it will do this against the above framework of LOs, ODIs and PCDs.

3.4. Business Plans must identify planning and resourcing requirements, especially where the level of activity looks to increase significantly from historical levels.

³ In January 2020 we issued an update to the [RIIO-ED2 Framework Decision](#), to correct a reference in paragraph 1.16. Both versions are available on our website.

Proposals for bespoke outputs

3.5. Companies have the opportunity to propose bespoke outputs in collaboration with their stakeholders and CEGs. These could include bespoke PCDs or ODIs.

3.6. Company proposals for bespoke outputs should:

- reflect the network services that existing and future consumers/network users and/or wider stakeholders require.
- be as complete as possible in capturing the activities and costs of the company in the relevant area.
- be measureable and reportable.
- allow comparison of performance across companies, where there is sufficient commonality.
- where relevant, capture the long-term nature of outputs.
- set stretching targets which are well-evidenced and deliver clear outcomes/outputs.
- deliver clear consumer value.

3.7. Where bespoke outputs are proposed, companies should also address the following points as part of their justification:

- why the activity in question is best dealt with through the RIIO-ED2 price control.
- how the proposal is backed by robust evidence and justification (such as cost-benefit analyses⁴) and why it demonstrates value for money for existing and future consumers.

⁴ Please see our requirements for cost-benefit analysis in Section 5 of this Guidance.

- what value consumers will receive from a proposed new service level and, by extension, the potential associated reward and/or penalty, and the extent to which these are symmetrical, in terms of value and likelihood of outcome.
- the extent to which an independent measure of the existing level of service that consumers receive is available and the degree to which the target level being proposed represents an improvement on this.
- the level of service that is provided by other companies/comparators (where available) in the area of activity in question.
- the activities (and indicative cost) associated with achieving the targeted level of service.
- proposals for licence conditions and/or penalties if performance falls below existing service level.

3.8. The value of bespoke ODIs should be at least 0.25% and up to 1% of base revenue (ie the maximum reward or penalty available under a bespoke ODI should be at least 0.25% but not more than 1% of base revenue). Bespoke PCDs should have a value of at least £15m.

Meeting the needs of consumers and network users

Vulnerability Strategy

3.9. Submitting a Vulnerability Strategy is a minimum requirement under our Stage 1 assessment of the Business Plan Incentive (BPI). A Vulnerability Strategy in the Business Plan should set out the company's proposed approach to protecting consumers in vulnerable situations and delivering support associated with the activities of the DNO in RIIO-ED2. To meet the minimum requirements under Stage 1 of the BPI, DNOs' strategies should:

- include a robust assessment of the vulnerability issues prevalent in the company's customer base and evidence of how this informs its proposed approach.
- set out a clearly articulated vision for addressing vulnerability issues identified, with tangible links between the proposed deliverables and the outcomes and the benefits these aim to deliver.

- be aligned to the principles and baseline standards set out in Appendix 1.
- include deliverables which are specific, time bound and relevant.⁵ For the purpose of the ex post assessment under the ODI,⁶ we expect DNOs to identify where proposed deliverables are in line with baseline standards, or exceeding these standards.
- where appropriate, include transparent performance metrics which enable stakeholders to track the DNO's progress. For each metric, it should be clear how performance will be measured, how the metric is relevant to the strategy objectives and there should be well-justified performance target. For the purpose of the ex post assessment under the ODI, we expect DNOs to identify where proposed targets are in line with baseline standards, or exceeding these standards.
- be developed with stakeholder and CEG input, and developed in line with the company's wider business planning processes and decisions.

Connections Strategy

3.10. Submitting a Connections Strategy is a minimum requirement under Stage 1 of the BPI. A Connections Strategy in the Business Plan should set out the company's proposed approach to meeting the needs of major connections customers in RIIO-ED2. To meet the minimum requirements under Stage 1 of the BPI, DNOs' strategies should:

- include a robust assessment of the connection issues prevalent in the company's customer base and evidence of how this informs its proposed approach.
- set out a clearly articulated vision for addressing connections issues identified, with tangible links between the proposed deliverables and the outcomes and the benefits these will deliver.

⁵ By this we mean: Specific – it should be clear what is being delivered in practice in order for successful delivery to be measured; Time bound – it should contain clear dates and milestones; Relevant – there should be a tangible link between the company's review of prevalent issues; the company's long term objectives for the output areas and where appropriate, the DNOs role.

⁶ See Section 6 of [Annex 1 to the RIIO-ED2 Methodology Consultation](#) for information on the proposed ex post assessment approach.

- be aligned to the principles and baseline standards set out in Appendix 2.
- include deliverables which are specific, time bound and relevant.⁷ For the purpose of the ex post assessment under the ODI,⁸ we expect DNOs to identify where proposed deliverables are in line with baseline standards, or exceeding these standards.
- where appropriate, include transparent performance metrics which enable stakeholders to track the DNO's progress. For each metric, it should be clear how performance will be measured, how the metric is relevant to the strategy objectives and there should be well-justified performance target. For the purpose of the ex post assessment under the ODI, we expect DNOs to identify where proposed targets are in line with baseline standards, or are exceeding these standards.
- be developed with stakeholder and CEG input, and developed in line with the company's wider business planning processes and decisions.

Maintaining a safe and resilient network

Asset Resilience

3.11. Business Plans must set out the company's views on asset health, criticality and replacement priorities at:

- the start of the price control period, effectively reflecting their view on the asset health, criticality and risk of assets on the network.
- the end of the price control period with no intervention, effectively reflecting their view on asset degradation over the period.
- the end of the price control period with intervention.

⁷ By this we mean: Specific – it should be clear what is being delivered in practice in order for successful delivery to be measured; Time bound – it should contain clear dates and milestones; Relevant – there should be a tangible link between the company's review of prevalent issues; the company's long term objectives for the output areas and where appropriate, the DNOs role.

⁸ See Section 5 of [Annex 1 to the RIIO-ED2 Methodology Consultation](#) for information on the proposed ex post assessment approach.

- 3.12. We also expect companies to explain their long-term risk objectives and strategy, as well as the long-term benefits delivered by their proposed interventions.
- 3.13. Monetised Risk objectives must be informed by stakeholder engagement and cost-benefit analysis (CBA), and demonstrate that selected investment options both efficiently meet their stakeholder-driven objectives and efficiently deliver sufficient net benefit for existing and future consumers.

Workforce resilience

- 3.14. Business Plans must demonstrate how companies will develop a modern, diverse, high-quality, well-trained workforce fit for the future. We consider that Business Plans should focus on the following areas:
- improving inclusion.
 - diversity and equality.
 - improving workforce satisfaction.
 - motivation and productivity.
 - upskilling and multi-skilling.
 - ensuring the health, safety and mental wellbeing of the workforce.
- 3.15. These plans should make reference to the extent of any company engagement with CEGs, Trade Unions and other relevant stakeholders that have informed the workforce resilience strategy.

Cyber Resilience

- 3.16. Business Plans must demonstrate how companies will take appropriate and proportionate technical and organisational cyber security measures to manage risks posed to the security of the network and information systems on which their essential services depend, and to prevent and minimise the impact of incidents on these essential services.
- 3.17. To address cyber resilience requirements during RIIO-ED2, Business Plans should include the following two sections:

- A Cyber Resilience IT Plan (which would be considered BAU expenditure) – focused primarily on cyber resilience IT improvements on its network (in terms of its current risk position and when compared to its own acceptable risk tolerances), and
- A Cyber Resilience OT Plan – which is incremental expenditure focused primarily on Operational Technology (OT), in response to the Network and Information Systems Regulations 2018 (“NIS Regulations”).

3.18. We published additional draft guidance as part of a consultation during September 2019 which can be used by companies in developing their Cyber Resilience plans.⁹ Ofgem encourages companies to engage with us throughout 2020 and 2021 to assist this process.

3.19. Cyber Resilience Plans included in a company’s RIIO-ED2 Business Plan will be assessed against the minimum requirements for quality as set out in the BPI section, below.

3.20. For both plans, Ofgem is not expecting these to include general technology refresh, or end of life replacement. Ofgem would expect such projects to form part of more general system investment plans, which should already include appropriate cyber security protection.

3.21. For the Cyber Resilience OT Plan, IT Security measures for the business domain are generally considered out of scope. However, Ofgem will consider crossover within the Cyber Resilience OT Plan, where an associated risk is highlighted, for example around the interconnection between business IT and OT.

3.22. In general, both plans should include efficient, appropriate and proportionate costs to deliver necessary enhancements to the cyber security and resilience of the systems used to operate essential services. Current risks, vulnerabilities, threats and mitigation options are expected to be documented, together with the relative benefits of the options considered.

⁹ This guidance was subsequently updated in February 2020, and is available [here](#).

- 3.23. We will assess these plans, considering whether the measures proposed are appropriate, proportionate and efficient. Any allowances for cyber resilience provided in RIIO-ED2 will be based on this assessment.

Physical security

- 3.24. Business Plans must demonstrate how companies will meet any ongoing requirements associated with assets deemed as Critical National Infrastructure (CNI). Companies must submit any costs relating to the physical security of CNI sites as part of their Business Plans.

Delivering an environmentally sustainable network

- 3.25. Submitting an Environmental Action Plan (EAP) is a minimum requirement under Stage 1 of the BPI. An EAP in the Business Plan should encompass activities DNOs intend to undertake in RIIO-ED2 to decarbonise the electricity distribution network and to reduce the wider impact of network activity on the environment. An EAP included in Business Plans should:

- include a robust methodology that has been used to assess the environmental impacts of the company's network and Business Plan in RIIO-ED2. The assessment methodology should set out:
 - a comprehensive review of the significant environmental impacts arising from its network activity.
 - the opportunities and challenges for addressing material impact areas.
 - an options analysis to identify the value for money of initiatives to reduce its environmental impact.
 - evidence that consideration of impacts was coordinated with the company's wider business planning processes and decisions.
 - evidence that wider stakeholders have been involved in the assessment.
- clarify their long-term overall targets/objectives for the network's environmental impacts, beyond the RIIO-ED2 period.

- include an assessment of the network's potential environmental impacts in RIIO-ED2 without intervention, in comparison to its current impacts.
- set out clear links between the impact areas it has prioritised in the EAP, action, and targets in RIIO-ED2, and how these are linked to the company's long-term environmental targets/objectives.
- set out the role the company envisages playing in supporting the low carbon energy transition.
- set out the deliverables, outputs or environmental benefits the company proposes to deliver from implementing the EAP.

3.26. We expect that EAPs will draw together the direct carbon impacts claimed in any relevant Engineering Justification Papers (EJP) and CBA submissions (for example losses, Electric Vehicle fleet) and will include a list of all such submissions where:

- carbon reduction is the main driver of the proposal.
- carbon reduction contributes to a substantial part of the benefits claimed by the projects.

3.27. In addition to these overarching requirements, we outline our view of the baseline standards companies should meet for specific activities in scope. These baseline standards can be found in Appendix 3. These should be viewed in addition to the requirements of the EAP, and they reflect the level of ambition we expect companies to demonstrate for individual areas. In developing their EAPs and ensuring it meets our requirements, companies should ensure their actions to address each area are in line with respective baseline standard.

4. A smart, flexible energy system

Modernising Energy Data

Digitalisation Strategy and Action Plan

- 4.1. The proposed Licence Obligation to publish a Digitalisation Strategy and Action Plan is expected to make information publically available about the DNO's intentions and plans for digitalisation of their energy network and associated services for data.¹⁰
- 4.2. The effectiveness of the Digitalisation Strategy and Action Plan hinges on high quality information and insight about stakeholders and their needs.
- 4.3. We expect DNOs to identify, learn about and understand the data-related needs of their staff and external stakeholders, including those who currently make use of Energy System Data,¹¹ and those who seek to use that data now or in the future.
- 4.4. We expect those needs to have been researched and for ongoing research to take place. We expect this research of needs to be integrated into regular business activity and for the learnings from this to form the basis of the Digitalisation Strategy and Action Plan.
- 4.5. A summary of the insight gained from this research should be included in the published Digitalisation Strategy and Action Plan.
- 4.6. In addition, Business Plans should set out how the DNO has approached, and will continue to approach, its identification of the stakeholders who seek to use data controlled by a DNO and how it engages those stakeholders to understand their data-related needs. As part of this, Business Plans should include:

¹⁰ See Section 5 of the [RIIO-ED2 Methodology Consultation Overview document](#) for information on our proposed approach to modernising energy data in RIIO-ED2

¹¹ Our working definition of Energy System Data has evolved from the definition provided by the Energy Data Task Force and is "facts and statistics collected together that describe the energy system (current, historic and forecast), including: the presence and state of infrastructure, its operation, associated market agreements and their operations, policy and regulation." See: [Energy Data Taskforce: A Strategy for a Modern Digitalised Energy System](#)

- a description of a robust high-quality methodology that the DNO has used to identify its stakeholders and to engage with them to learn their data and digitalisation needs.
- separately, a description of any planned changes to the ongoing use of this methodology.
- the evidence accrued through the application of this methodology, including demonstration of how the content of the Digitalisation Strategy and Action Plan has been derived from this evidence.
- evidence of DNO communication and feedback events and activities with stakeholders about how their needs have been interpreted and formed the basis of the Digitalisation Strategy and Action Plan.
- plans for future DNO communication and feedback events and activities with stakeholders about how their needs have defined the Digitalisation Strategy and Action Plan.

4.7. The approaches referred to in the above paragraph should to be:

- strategic and proportionate, taking advantage of recognised practices, for example through defining personas that characterise stakeholder groups and their needs.
- inclusive of all stakeholders, including consideration of hard-to-reach groups and groups who operate in markets outside of the energy sector, as well as the needs of both existing and future consumers.

Data Best Practice

4.8. The proposed Licence Obligation to comply with Data Best Practice guidance¹² is expected to ensure day-to-day working with data maximises benefits for its users, whilst also complying with the needs of security, privacy, commercial concerns, and

¹² Ofgem intends to consult on a principles-based set of guidance that, when followed, ensures that the use of data is effective for the benefit of its users and, therefore, for the ultimate stakeholders of the subject matter in question, in this case energy consumers. Early drafts of the guidance are available here: <https://www.ofgem.gov.uk/publications-and-updates/early-draft-data-best-practice-guidance-available>.

serving the public good. The time and cost burdens associated with working with data will be minimised for the benefit of consumers.

- 4.9. The work required by DNOs to comply with Data Best Practice is expected to feature a mix of common and bespoke needs between all of the data that comprises Energy System Data. We therefore expect effective use of data to take multiple forms.
- 4.10. Data and digital work delivers the best outcomes for consumers through iterative working, feedback and making continuous improvements to services. This is one of the drivers for why our draft Data Best Practice guidance sets expectations through principles, rather than explicit standards.
- 4.11. Business Plans should demonstrate DNO competency at complying with Data Best Practice. If the planned Data Best Practice guidance consultation has not concluded by the time that Business Plans are submitted, we expect Business Plans to be able to demonstrate competency with the latest draft of the guidance. Where any matters relating to the guidance are unresolved and these impact on the Business Plan submission, we expect DNOs to identify this in the Business Plan.
- 4.12. Business Plans should include specific examples of the most mature data work DNOs have carried out in complying with the expectations of Data Best Practice guidance. This will provide assurance that each DNO has the capability in place to comply with a new licence obligation requiring them to follow Data Best Practice guidance for its portfolio of Energy System Data.
- 4.13. We believe the approaches of continuous development and continuous improvement are important as the DNOs make changes to their business to comply with Data Best Practice. We will take this into consideration as we review the DNOs' Business Plans with respect to Data Best Practice. However, we would like to be clear that we expect DNOs to provide their best examples of complying with Data Best Practice.
- 4.14. Examples of complying with Data Best Practice guidance within the Business Plans should be limited to work that the DNO has already delivered and that has already enabled data users to deliver direct benefits to consumers. We expect information included to be:
 - examples that span meeting the needs of users of the data, both internal and external to the DNO.

- a demonstration of how the use cases meet Data Best Practice Guidance principles.
- inclusive of relevant supporting work, such as the DNO framework for open data triage.
- a range of data triage outcomes, showing the DNO making data fully open, shared and closed.
- data that has required sensitivity mitigation before it was opened/shared.
- evidence from data users about how their needs have been met.

DSO transition

4.15. We require companies to provide a DSO Strategy that sets out how they will meet our baseline expectations. These baseline expectations are set out in Appendix 4. The requirements for a complete and suitable strategy are:

- Each strategy should have a clearly articulated vision for fulfilling its DSO roles, with tangible links between the proposed deliverables, the outcomes or the benefits it hopes to deliver and how this compares to its existing service provision.
- This should be underpinned by a robust methodology which demonstrates the understanding of the issues associated with the output area and options for addressing them; evidence of stakeholder and CEG engagement and that the strategy was developed in line with the company's wider business planning processes and decisions.
- Deliverables within the DSO strategy should be specified, time bound and relevant.¹³

¹³ By this we mean: Specified – it should be clear what is being delivered in practice in order for successful delivery to be measured; Time bound – it should contain clear dates and milestones; Relevant – there should be a tangible link between the company's review of prevalent issues; the company's long term objectives for the output areas and where appropriate, the DNOs role.

- Each company must set out how they will meet or exceed the baseline expectations of DSO roles and principles. This includes, but is not limited to, providing the information that we set out under each principle in this section.

4.16. Companies should also include other deliverables and actions that are relevant to the overall scope and objective of each principle.

4.17. The strategy should include performance metrics. We will consider applying these as part of the DSO ODI.¹⁴ These should link to specific principles or baseline expectations and the company should aim for sufficient coverage across all areas of the strategy. The metrics should be transparent and enable stakeholders to track progress. For each metric, it should be clear how performance will be measured; how the metric is relevant to the strategy objectives and there must be well-justified performance benchmarks. This benchmark can be aligned with the baseline expectations or above this standard.

4.18. We are mindful that many of the aspects of these principles relate to our overall expectation for DNOs to digitalise and make better use of data. We expect Business Plan submissions explaining DSO related data improvements will also be of value for the Modernising Energy Data requirements set out above. These requirements seek use cases for data improvements under the proposed licence obligations for publishing a Digitalisation Strategy and Action Plan, and complying with Data Best Practice.

Principle 1.1 Plan efficiently in the context of uncertainty, taking account of the whole electricity system and promote planning data availability

4.19. Companies must explain how they plan to achieve all baseline expectations relevant to this principle. As part of this requirement, information must include:

- the process for developing and applying Distribution Future Energy Scenarios (DFES) in planning processes, including what analysis the DNO will undertake and how they will gain and use stakeholder input. This includes the transparent and

¹⁴ Discussed in the Section 6 of the [RIIO-ED2 Methodology Consultation Overview document](#)

evidence-based process by which multiple DFES scenarios will be used to create a 'central view' network forecast for the Network Development Plan.¹⁵

- how real network data, for example from the Long Term Development Statement (LTDS), is used to ground the DFES and the Network Development Plan in observed and high certainty network conditions.
- the plan and justification for rolling out monitoring across more of their network, as well as how they will gather and use other information including from third parties in forecasting, simulation and network modelling.
- how asset data, including asset ratings, will be shared.
- how heat maps of the network will be made available and what information they will show.
- what thresholds will be used, if any, to determine when different solutions will be considered to meet network needs (eg the value of reinforcement requirements that would justify an expression of interest for flexibility providers).
- how DNOs will invite and otherwise identify possible solutions that can be provided by other network companies and network users to resolve network needs.
- what smart network solutions will be considered in addition to conventional reinforcement and customer flexibility, and how DNOs will ensure it does not undermine the quality of electricity supplied to network users.
- the evaluation methodology the DNO will use to compare different solutions, including flexibility, for meeting network needs. DNOs should demonstrate how its evaluation process will identify the solution that is economic and efficient over the long term, recognising the option value that flexibility can provide.

¹⁵ We note that DNOs undertake varying levels of DFES analysis, and use the outputs in different ways. We expect DNOs to demonstrate how DFES are used in the network planning process. We note that methodologies such as those developed under the ATLAS Network Innovation Allowance funded project are at a sufficiently mature Technology Readiness Level (TRL) to be able to be used by all DNOs to meet our baseline expectations. ATLAS: <https://www.enwl.co.uk/zero-carbon/innovation/smaller-projects/network-innovation-allowance/enwl008---architecture-of-tools-for-load-scenarios-atlas/>

- what steps the DNO will take to make its evaluation process transparent, and otherwise enable scrutiny of its decisions.
- how all relevant data and outputs will be shared in line with data best practice.
- steps that will be taken to improve processes above during the price control, and how greater standardisation across DNOs will be delivered.

Principle 2.1 Promote operational network visibility and data availability

4.20. Companies must explain how they plan to achieve all baseline expectations relevant to this principle. As part of this requirement, information must include:

- how they will share operational constraint data, network topology and configuration information openly on forward timescales to provide meaningful benefit to flexibility providers, and what this information will include.
- plans and processes for sharing operational data across DNOs and with the ESO in a standard way, for example through Inter-Control Centre Protocols (ICCPs).
- what information will be shared with the ESO, and how, to support avoidance of conflicts and maximisation of synergies in dispatch of flexibility services.
- what additional real time information they will gather on DER availability, and how this will aid securing against DER losses.
- how all relevant data and outputs will be shared in line with data best practice.
- steps that will be taken to improve processes above during the price control, and how greater standardisation across DNOs will be delivered.

Principle 2.2 Operate an economic and efficient distribution system

4.21. Companies must explain how they plan to achieve all baseline relevant to this principle. As part of this requirement, information must include:

- plans for, and features of, a decision-making framework for when DER is instructed to dispatch to provide DSO ancillary services and how this is coordinated with dispatch for ESO ancillary services. This shall include the relevant parameters, any

design principles, and how it will maximise liquidity across flexibility markets and enable DER to stack revenues.

- processes to enable secondary trading of products.
- how DNOs will design, develop and communicate the decision-making framework for dispatch instructions. This must include an explanation of the role of stakeholder engagement.
- robust and transparent definitions and clear applications of dispatch instructions. Companies should explain how these dispatch instructions are complimentary to markets and direct control is not a fall-back option that is relied on to the detriment of the development of markets.
- what dispatch infrastructure will be used in RIIO-ED2. This should include details of its scalability for greater and wider (eg for operation by a third party) application. DNOs should detail the steps they are taking to create simple and standard application protocol interfaces so DERs can cost-effectively interface with multiple DNOs' systems.
- how they will ensure that network operations, and associated changes in system architecture, are not hard coded such that non DNOs can perform such tasks in the future. This includes how the methodology of operational data sharing will meet industry requirements or how proprietary software will be avoided so far as possible.

Principle 3.1 Provide accurate, user-friendly and comprehensive market information

4.22. Companies must explain how they plan to achieve all baseline expectations relevant to this principle. As part of this requirement, information must include:

- what information they will make available, and how, about their needs in the longer term, as they emerge from their enhanced planning and forecasting processes described above under principle 1.1. Communication of flexibility needs in the future should allow sufficient lead time for existing and new providers to develop capability to provide solutions to need.
- what operational data DNOs will make available, and how. Operational data requirements are detailed above under principle 2.1.

- what market reporting information DNOs will make available, how regularly, and in what format. This should include tender results, prices bid and paid, how often DER is dispatched (and volumes) and other actions taken by the DNO. It should include what information about DER will be anonymised, and how. The DNO shall also set out what other information it will seek to make available to support the development of markets, and how it will identify helpful information.
- how the DNO will engage with market participants and other relevant stakeholders to identify what makes information user-friendly, and what steps the DNO will take to ensure the information it publishes is user-friendly and complies with data best practice.
- what steps the DNO will take to improve the accuracy of the information it publishes.

Principle 3.2 Simple, fair and transparent rules and processes for procuring DSO ancillary services

4.23. Companies must explain how they plan to achieve all baseline relevant to this principle. As part of this requirement, information must include:

- what types of DSO ancillary service products the DNO plans to have rolled out in RIIO-ED2. What steps the DNO is taking to ensure they are standardised with other DNOs' products. Where they are regionally specific products, DNOs should set out how they will be sufficiently aligned with principles and any governance arrangements for standardised products, so that they are simple to engage with.
- how the DNO will optimise contract lengths to reflect the network need, reliability, and liquidity and the opportunities for innovation and dynamic competition.
- proposed processes or governance arrangements detailing how products and contracts are developed and refined. This includes how flexibility providers are able to input into the development of flexibility products and contracts, and other steps the DNO is taking to ensure the technical specifications of reflect the technical characteristics of flexibility providers. It also includes how the DNO will coordinate with the ESO to enable efficient coordination across flexibility markets. We expect DNOs to include how and why any exclusivity clauses are included in flexibility contracts.

- how coordination in DNO and ESO dispatch instruction will be communicated in and facilitated by commercial contracts and arrangements. This includes what steps the DNO is taking to minimise the use of exclusivity clauses, and more widely how commercial arrangements will reflect better communication of operational data between the DNO and the ESO so that DER can more easily stack value.
- how the DNO proposes to enable secondary trading in contracts and commercial arrangements.
- what measures the DNO is introducing to manage actual or perceived conflicts of interest between its market facilitation and network ownership roles or other business interests. The DNO shall describe how stakeholder engagement will inform the development and implementation of these measures.
- how market support services, including pre-qualification, credit-checking and settlement of transactions, will be efficiently designed and delivered to enable simple participation in markets.
- how DNOs will enable third parties to provide market support services and platform services, for example by using standard data architectures, and application programming interfaces (APIs). What measures DNOs will take to promote coordination of DSO ancillary services across third party platforms.

Enabling whole system solutions

4.24. Business Plan must set out the proposed approach to enabling whole system solutions. This must include:

- plans and processes for joint planning with other network companies and/or the system operator (and evidence of that already undertaken).
- evidence of effective identification and adoption of potential whole system solutions and approaches, reflecting how they have taken account of the impacts and opportunities of their actions for the wider system (and the wider system for them), and accounted for those in their cost benefit analyses.
- a demonstration of long-term whole system thinking and value for consumers and the wider society, including identification of uncertainties and mitigation

- demonstrable cross-sector¹⁶ engagement, optioneering, and planning with licensees in sectors or vectors other than their own.

4.25. Where a company proposes an activity which coordinates with, or generates benefits for, any broader area of the economy or society, the DNO's Business Plan must contain justified and costed proposals for whole system outcomes and solutions. Such activities must demonstrate:

- that they meet all the same requirements for 'non-whole system' activities (costs, engineering justifications, etc), and how uncertainty mechanisms, including reopeners, could support them. Companies should apply proportionality when submitting whole system CBA. For example, smaller or simple projects following the standard CBA template, whereas larger or more complex projects requiring bespoke analytical approaches.
- that there are net benefits for their sector's consumers and which type(s) of benefit that the activity will generate for consumers eg lower bills, reduced environmental damage, improved reliability and service. The distribution of costs and benefits over time should also be demonstrated (ie for existing and future consumers).
- the value – and methodologies for calculation – of the activity for other sectors, towards achieving broader goals (eg, decarbonisation), and for other aspects of the economy (eg, telecommunications).
- the level of coordination and potential provisional agreements that have already been secured to support these proposals, including a justification that the split of costs and benefits between the company and the whole system partner(s) are appropriate.
- why a market solution cannot be utilised to produce this result, and that all options have been considered on a level playing field.

¹⁶ 'Sector' refers to the distribution, transmission and operation of a single energy source. For example, the 'gas sector' includes the firms responsible for gas transmission, distribution, and system operation. By 'cross-sector', we refer to any licensee in one energy source sector, e.g. electricity, working with any licensee in another energy source sector, e.g. gas.

- that the activity is not BAU, and expenditure which sets the activity as above BAU should be clearly identified and delineated.
- how changes already made in the RIIO-ED1 operating period – in response to changing market conditions, stakeholder expectations, or potential licence changes – and outlines how these practices will be embedded and improved in RIIO-ED2.

4.26. Where a company has not identified any potential opportunities for proposed whole system outcomes and solutions, DNOs must provide evidence of their engagement and attempts to discover such opportunities.

4.27. Additionally, Business Plan sections on innovation must contain consideration of whole system approaches as potential solutions to the barriers being addressed by the innovation proposals.

Innovation

Innovation within BAU activities

4.28. We expect companies to fund more innovation in RIIO-ED2 using their totex allowance, as part of their BAU activities, rather than relying solely on innovation stimulus funds.

4.29. There will not be a separate funding stream (on top of the totex allowance) for BAU innovation. Instead, this innovation should be incorporated into wider BAU activities throughout their plans.

4.30. Companies' Business Plans must evidence a strong strategic focus on innovation. This will include how companies are developing and embedding a culture of innovation throughout their business.

4.31. We are not asking companies to set out all the specific innovation projects they plan to do with their totex allowance. Instead we want to understand the high-level innovation activities (ie the areas and themes they seek to focus on) companies are planning for RIIO-ED2 using their totex allowance and the processes they have in place for identifying these ideas. This must evidence:

- a strategic approach to the company's innovation activities, which builds upon industry-wide challenges and industry-wide strategic direction.

- how they will consider, and mitigate if necessary, the potential impacts of their innovation activities on consumers in vulnerable situations.
 - consideration of whole system approaches as potential solutions to the barriers being addressed.
 - how plans for RIIO-ED2 build on past projects completed by itself and others, considering lessons learned from these past projects.
 - plans for third-party involvement in the company's innovation activities, demonstrating how they will increase third party involvement in their innovation activities and ensure full consideration of third-party innovation ideas. They may, for example, include plans for independent consideration of which third-party innovation ideas to take forward.
 - plans to collaborate and disseminate innovation learnings with other network companies and other interested bodies.
 - a framework for rolling out proven RIIO-ED2 innovation into the business during the course of the RIIO-ED2 price control.
 - how they propose to monitor the benefits of planned RIIO-ED2 innovation and reduce costs in other areas during the course of RIIO-ED2 using this innovation.
- 4.32. The Business Plan should also describe the steps that the company is taking to ensure that previously proven innovation is rolled out into BAU and how the benefits of these are reflected in the company's proposed expenditure for RIIO-ED2. This will include innovation trials that they have participated in, as well as ones that have been led by other companies.

Network Innovation Allowance (NIA)

- 4.33. If companies believe NIA funding is necessary for RIIO-ED2, their Business Plan should set out and justify the level of NIA requested.
- 4.34. In addition to the inclusion of the information detailed above in relation to innovation, the NIA funding request should include:
- high-level areas of focus for NIA spending, rather than individual projects.

- how these activities will be delivered.
- how much additional NIA funding they believe is necessary for each of these areas of focus.
- the value/benefits they anticipate these activities may generate.
- how the overall level of NIA funding compares with the level of NIA funding the DNO received in RIIO-ED1.
- explanation why the innovation in question cannot be funded from the totex allowance.

4.35. As part of their request for NIA funding, companies should also set out the desired structure of their proposed RIIO-ED2 NIA and how much risk they are willing to take on themselves against their NIA. For example:

- whether they seek an annual allowance or an allowance over the length of RIIO-ED2.
- the compulsory contribution they are willing to make towards RIIO-ED2 NIA projects or against their overall allowance.
- any other wider features they seek to propose to support their allowance, such as re-openers to reassess the level of NIA funding needed during the course of RIIO-ED2.

5. Keeping consumer bills low

Forecasts and scenarios

- 5.1. In 2019, the UK Government passed legislation enshrining in law the target of Net Zero greenhouse gas emissions by 2050. The Scottish Government also legislated to set a Net Zero target for 2045 and the Welsh Government intends to introduce legislation to amend its existing 2050 target for the achievement of Net Zero emissions.
- 5.2. In our December 2019 RIIO-ED2 Framework Decision, we outlined our position that DNOs develop a core baseline scenario and set out what network investment would be required to meet this scenario. This information will enable us to conduct comparative cost benchmarking, where appropriate.
- 5.3. For the purposes of benchmarking we will require DNOs to arrive at a core baseline scenario by using a common set of scenarios from which DNOs would select their own “best view”. We are not at this time prescribing the common set of scenarios that DNOs should use. These should, however, all take into account the Net Zero target.
- 5.4. In recent years, DNOs have begun producing Distribution Future Energy Scenario (DFES) documents and workbooks and there is the potential that, among other uses, these can help to establish a “best view” forecast of demand for the purpose of identifying investment requirements.
- 5.5. In Section 6 of the RIIO-ED2 Methodology Consultation Overview document, we describe our intention to introduce a licence condition on DNOs to require a Network Development Plan (NDP) for a five-to-ten year time window, based on a single central/best view network forecast of changes in demand and generation, reinforcement needs, and expected flexibility use. We expect that DFES scenarios will provide a basis for deriving the NDPs. We will therefore be developing the licence condition to reflect the need for DFESs to be produced in a consistent manner, be auditable, for data to be fully available, and to demonstrate how such data is used as an input into the NDP.
- 5.6. Where DNOs have used the DFES as an input to establishing their “best view”, they should demonstrate in their Business Plans how this meets the requirements of their licence.

- 5.7. This information is for the purpose of enabling us to benchmark costs. It does not necessarily mean that this approach should form the basis of the investment plan.
- 5.8. In Section 4 of the RIIO-ED2 Methodology Consultation Overview document, we describe the various factors that need to be considered in establishing whether and in what circumstances a centralised set of forecasted outputs should be used to determine allowances for load related expenditure, or when a more decentralised approach should be adopted.
- 5.9. We expect to make a decision on this in December 2020 and we will update this guidance to reflect the approach we decide DNOs should take to forecasting load growth for the purpose of investment planning. This will include any central direction Ofgem decides to give the DNOs on the forecast scenarios and outputs that they should use for establishing investment requirements should plan to deliver.
- 5.10. As we acknowledge in Section 4 of the RIIO-ED2 Methodology Consultation Overview document, there may be circumstances when a more decentralised and region-specific approach to forecasting demand is required. This may require DNOs to base their “best view” investment proposals (in full, or for certain items) on forecast scenarios that do not form part of the ‘common set’.
- 5.11. This may be the case where devolved governments have different targets for Net Zero, while some regional and local authorities are bringing forward decarbonisation ambitions and strategies that go further and faster than the commitments made by the UK, Scottish and Welsh governments.
- 5.12. In addition, where a company is using engagement with stakeholders as a means of establishing a regional forecast for load growth, such as through a Local Area Energy Plan, we will require a detailed description of the process through which this engagement has been conducted. This should include evidence of:
- structured and effective consultation with national and local stakeholders and a demonstration of how this was supported with input from democratically accountable bodies.
 - relevant network planning data being made available to external stakeholders in a digitised and open form. This should include the provision of heat maps, where relevant.

- how this process took account of the alignment between regional and national targets and the reasons for any differences.
- the nature of the modelling that was conducted to establish a 'most likely' regional pathway to Net Zero.
- the manner in which the data from this modelling was made available to other stakeholders, in line with Data Best Practice guidance.

5.13. The Centre for Sustainable Energy, together with the Energy Systems Catapult, have developed best practice guidance for Local Area Energy Plans (LAEPs)¹⁷ and this may provide a useful framework which could be a useful reference for what a robust process might look like. We are currently seeking views on the applicability of this LAEP guidance and intend to provide our view on this later in 2020.

Access and Forward-looking charges Significant Code Review (SCR)

5.14. The Access and Forward-looking charges Significant Code Review ('Access SCR') could impact on RIIO-ED2 in a number of different ways.¹⁸ We are coordinating our work across these projects so that decisions and recommendations are made to a timescale that aligns with the development of the RIIO-ED2 sector methodology and the preparation of DNO business plans. For instance, we plan to consult on our minded-to decision on access and forward- looking charges later this year with a final decision in spring 2021.¹⁹

5.15. We recognise that should our final decision on access and forward-looking charges significantly change from our minded-to consultation then it may be challenging for DNOs to reflect these changes in their draft business plan. We are therefore proposing that:

¹⁷ See www.cse.org.uk/local-area-energy-planning

¹⁸ We invite stakeholders to respond to our proposals concerning the impact of Access SCR on RIIO-ED2. See Section 8 of the [RIIO-ED2 Methodology Consultation Overview document](#) for further information.

¹⁹ The implementation of our Access SCR is likely to result in subsequent code modifications and there may be licence modifications (depending on our decision). These will come into effect from 1 April 2023

- draft business plan submissions (due in July 2021) should use Access SCR Minded-to Consultation as a baseline.
- final business plan submissions (due in December 2021) should use Access SCR Final Decision as a baseline.

5.16. It would be helpful for DNOs to identify within their draft business plan submission which specific parts of their business plan could be impacted by our Access SCR proposals (eg costs or volumes of connections). This includes any cost increases linked to the implementation of the Access SCR proposals.

5.17. We do not expect our work on Access SCR Impact Assessment modelling to generate specific values that can be inputted into DNOs' business plans. However, we expect to challenge DNOs to maximise the benefits of access reform for consumers, and justify how they have taken account of Access SCR proposals as part of their RIIO-ED2 business plans.

Cost information

5.18. In proposing costs for operating and developing their networks, companies should explain their costs/workload forecasts, particularly where these diverge from historical trends. In particular, we expect companies to provide information in their Business Plans on:

- cost drivers.
- consideration of options.
- justification of costs, including the proposed profiling of costs.
- how efficiency and innovation will be used to reduce costs.

5.19. Companies must complete the Business Plan Data Templates (BPDTs) in accordance with the relevant Ofgem guidance.

5.20. Business Plans must clearly set out the key drivers of expenditure for the RIIO-ED2 period - for example, growth in demand, conditions of assets/utilisation, legislative requirements, and any other relevant drivers.

5.21. Business Plans must clearly justify the need for new investment, including:

- information on current levels of network utilisation and changes to utilisation based on different forecast growth scenarios, including their “best view”. We expect that information on current and forecast network capacity is published in alignment with Data Best Practice. This should include its integration into the joint network mapping platform that Energy Networks Association’s (ENA) members have already been working on. This should be undertaken in a way that is consistent with Ofgem-led reforms to the Long Term Development Statement (LTDS), which proposes enhancing data on headroom to the 11kV network, and the Network Development Plan, where readily accessible data on network headroom will form a central component.
- the different options considered for meeting future network requirements, including the cost of “doing nothing” and of “deferral” options and the associated cost benefit analysis (CBA). These options should include, where appropriate, the availability of potential market solutions to the system need, and whether any 'whole system' solutions are available.
- for options discounted at this stage, full reasoning, detailing key assumptions and selection criteria given for exclusion.
- the reasons for the timing of investment under the different options considered, including expected outputs (eg the delivery of an increment in boundary capacity transfer, the delivery of an electricity link) related to the investment and year of delivery.

5.22. Business Plans must include:

- evidence of the efficiency of their costs, for example as compared to historical benchmarks and/or benchmarking with national and international comparators.
- details of assumptions and justification for projected changes in the efficient levels of unit costs over time (ie ongoing efficiencies) caused by improvements in project delivery, technological innovation, procurement efficiencies, etc.
- a clear rationale for any associated assumptions they consider we should use when assessing costs. For example, robust and transparent justification for the extent to

which regional and company-specific factors determine material (higher and lower) cost variations.

- details of the activities and indicative costs that are directly funded through totex allowances and are associated with achieving service levels.
- details of which categories of expenditure are more uncertain and more difficult to forecast using historical/independent benchmarks. This should include:
 - the risk of underutilisation/stranding that new investments/existing might face in the future under a range of plausible forecast scenarios.
 - the risk that an alternative solution may be the most efficient means of addressing the network requirement.
 - the risk that the timing of when the investment is required is premature.
- where this is the case, we expect companies to consider mechanisms that mitigate risk associated with uncertainty, and/or other evidence to justify their submitted costs.

5.23. For new or existing assets that face a risk of underutilisation, Business Plans should set out the monitoring and mitigation they will put in place to reduce this risk. For new assets (ie those assets that companies are planning to invest in and have included in Business Plans) that face a risk of underutilisation, network companies should ensure before undertaking the investment they have clear evidence of need, such evidence might include LAEPs.

5.24. Where a DNO considers an investment is certain under all scenarios, they will be expected to provide justification for this view.

5.25. Business Plans should demonstrate how their expenditure forecasts map onto relevant ODIs and PCDs.

Business plan data templates

- 5.26. BPDTs enable the collection of Business Plan data from all companies on a consistent basis. DNOs should fully and accurately complete the detailed data templates of the Business Plan as instructed by any guidance document. Draft BPDTs and associated instructions and guidance have been published by Ofgem.²⁰
- 5.27. We consult on a suite of data tables, guidance and commentary templates that facilitate a consistent presentation of the cost, volume, output and financial data underpinning the Business Plan submissions that have been developed with the DNOs. These templates are broadly in line with current annual reporting pack. We believe this is a proportionate approach and should facilitate easier comparison of forecasts with historical data.
- 5.28. We intend to work with the DNOs in the coming months to further develop the BPDTs and associated guidance.

Cost benefit analysis (CBA)

- 5.29. Both the CBA and engineering justifications are important decision support tools as part of the justification for investment needs in RIIO-ED2.
- 5.30. In demonstrating due diligence has been followed in the appraisal of potential investment decisions by companies, CBAs and engineering justifications should:
- be consistent with published guidance and recognised best practice, for example the Green book and the Spackman discounting approach.
 - demonstrate evidence of structured options development, including consideration of whole system options and non-network options, where applicable, against a baseline scenario which involves the minimum level of intervention that would be required to remain compliant with all applicable regulation.

²⁰ See <https://www.ofgem.gov.uk/publications-and-updates/riio-ed2-draft-business-plan-data-templates-and-associated-instructions-and-guidance>

- demonstrate the value of projects across different scenarios, and include an explicit consideration of (quasi) option values²¹ of deferring the investment; this might include the consideration of the outputs of jointly developed GDN/DNO LAEPs.
- be clearly linked to the Business Plan, where applicable, with sensitivity to changes in input parameters assessed, for example future energy scenarios.
- act as a robust decision support tool, open to scrutiny and challenge in conjunction with other appropriate means of justification for investment decisions.
- be transparent about which risks, costs and benefits have neither been considered nor monetised as part of the analysis.
- be transparent about assumptions, inputs and rationale for decisions, calculations and results.

Engineering justification Papers (EJPs)

5.31. Engineering Justifications Papers should:

- clearly establish the need for load related investment against a range of plausible planning scenarios derived from the DFES.
- clearly establish the need for non-load related investment against clear evidence of condition and anticipated deterioration, linked to asset condition reported during RIIO-ED1.
- present a range of possible options to address the need case identified, demonstrating why the preferred option is the most optimal. These may include traditional reinforcement options, commercial solutions (e.g. flexibility procurement), and smart solutions involving technology, systems and data.

²¹ Guidance on this option value from Ofgem can be found in our [Strengthening strategic and sustainability considerations in Ofgem decision making](#), and [Real Options and Investment Decision Making](#) papers and annexes.

- we expect to see the CBA detail the cost of each option against any reduction in operating costs, monetised risk, lost load and network losses.
- costs for specific projects should be based on a detailed scope of works.

Managing uncertainty

Uncertainty mechanisms

5.32. Forecasting costs for the duration of a price control is challenging. Uncertainty in cost forecasts can arise for several reasons, including whether a company needs to conduct an activity or make an investment, the amount of an activity they need to conduct, as well as the cost of the activity. Uncertainty mechanisms allow changes to a company's allowed revenues to be made in light of what happens during the price control period and help to ensure that consumers only pay for the outputs that are delivered.

5.33. As part of their Business Plans, companies can propose, with suitable justification, the inclusion of network company-designed uncertainty mechanisms. Table 1 below gives an illustration of the type of supporting information we expect to see with any such proposal.

Table 1 - Examples of the information we expect for additional uncertainty mechanisms

Issue	Information
What is the issue/risk that the proposed mechanism addresses?	Set out the uncertainty identified and why an uncertainty mechanism might be appropriate. Is the issue/risk regionally specific or industry wide?
If the mechanism was adopted in the RIIO-ED2 price control. Where would the ownership of risk lie in relation to the uncertainty covered by the proposed mechanism? ²²	Clearly set out where the risks lie with regard to customer/company/both, justifying why the apportionment is appropriate.

²² For example, in the case of a volume driver, consumers may carry the risk of higher volumes, while companies carry the risk of the actual cost (per unit of volume) being higher than the allowance.

Issue	Information
Materiality of issue	Quantification of the materiality of the issue (ie what is the expenditure exposure of the issue) – we will not prescribe a specific methodology for the quantification of materiality.
Frequency and probability of issue over the price control period	What is the expected frequency and probability of the issue during the price control period?
What is the proposed mechanism?	A description of what the mechanism is and how it works. This needs to be detailed enough to allow for potential implementation. If there is a materiality threshold, this would need to be set out as a percentage of allowed revenue. If there is a specific trigger event this should be defined.
What are the justifications for the mechanism?	Set out the benefits of the mechanism.
What are the drawbacks of the proposed mechanism?	Set out the drawbacks of the mechanism. Again, where possible, the materiality of these drawbacks need to be set out (eg the impact on charging volatility).
Can the drawbacks be reduced?	Explain why the drawbacks cannot be mitigated through alternative mechanism designs (eg by using a volume driver instead of logging-up or cost pass-through).
Explanation of how on balance, the mechanism delivers value for money while protecting the ability to finance efficient delivery.	Explanation of why the benefits of the mechanism outweigh the drawbacks. We also expect the quantification of how the proposed mechanism delivers value for money whilst ensuring efficient delivery.
Treatment in BPDTs	Outline how the associated costs have been treated in the BPDTs.

Real Price Effects (RPEs)

5.34. To enable us to assess Real Price Effects (RPEs) appropriately, we expect companies to provide us with the following information in their Business Plans:

- the input costs for which our measure of general output price inflation (ie CPIH) is a poor proxy, along with justification for why.

- the expenditure categories (eg direct opex) to which these input costs relate, and to what extent. We expect companies to consider the practical implications of their proposals, and in doing so show that each RPE is material relative to both totex and our measure of general output price inflation. This information should align with the data provided in the BPDTs.
- evidence to support all proposed RPEs, including clear evidence of a sustained and material deviation between input costs and our measure of general output price inflation.
- proposed indices for any proposed RPEs, along with evidence to support their use in indexation and justification for their selection over alternatives. The plan should include proposed forecasts for any proposed indices, along with evidence of how these have been derived.
- an explanation of any RPE cost profiling effects proposed throughout the price control.

Ongoing efficiency

5.35. Our ongoing efficiency assumptions represent the reduction in the volume of inputs required to produce a given volume of output. Whereas RPEs relate to the changes in the price of inputs used by network companies, ongoing efficiencies relate, in part, to changes in the volume of those inputs used to provide services to users.

5.36. To enable us to assess ongoing efficiency appropriately, we expect companies to set out in their Business Plans the ongoing efficiency assumptions submitted for each expenditure, along with evidence of how these assumptions have been derived. This could include:

- any proposed comparator industries for the purpose of cost assessment, along with a justification for those proposed.
- an explanation of how any historic data has been used to derive efficiency forecasts, including a justification for the time period selected and how forecasts capture enduring effects from efficiencies generated in previous price controls.
- a comparison of efficiency forecasts against efficiency gains realised in previous periods.

- interactions with innovation funding (past and future).
- interactions between ongoing efficiency forecasts and output quality.

5.37. This information should align with the data provided in the BPDTs.

Competition

5.38. Guidance is included below for late competition and early competition. We are not providing guidance related to native competition here. Our package of guidance for DSO principles set out the standards we expect and information we require for how DNOs plan to run competitive processes to procure flexibility.

Late competition

- 5.39. Companies should set out their best view of which projects meet the late model criteria for competition. Where the company sets out its view that a project in its Business Plan submission valued at over £100m does not meet the criteria for competition, the company should provide detailed reasoning through additional commentary. In presenting projects in their Business Plans, companies should also consider and indicate whether our approach to applying 're-packaging' and 'bundling' would be appropriate for those projects.²³
- 5.40. Companies should not seek to split larger, single projects into multiple smaller projects for the purpose of avoiding the high value criterion.
- 5.41. We would expect companies, as part of their Business Plan submissions, to put forward project-specific proposals for implementing a milestone-based approach, and proposals for minimising consumer detriment both during the construction period and once a project has been delivered and is in operation.

²³ More information on our re-packaging principle is available at page 22 of our November 2016 decision document [Extending competition in electricity transmission: Decision on criteria, pre-tender and conflict mitigation arrangements](#)

Early competition

- 5.42. To facilitate the identification of the system needs which may give rise to these projects, companies are required to flag in their Business Plans system needs (or projects) which are valued above the threshold value of £50m.
- 5.43. For projects that companies have flagged as meeting the threshold value, they can consider which of those projects would have no reasonable probability of being addressed by an alternative solution (contestability test).
- 5.44. For other flagged system needs or projects over the £50m threshold, if networks do not consider early competition to be in the interests of consumers they should provide reasons. For example, this might be appropriate where the system need or project is part of a wider programme of work and the separation of one aspect would make the overall programme more expensive for consumers.

6. Financial information

- 6.1. We will provide financial BPDTs, designed to gather relevant information on, for example, tax, pensions and asset disposals. Companies should use these BPDTs and the Business Plan Financial Model (BPFM) to submit business plan information, including any analysis presented in the plan such as financeability analysis, scenarios or tables of values. If any other models or tools are used to produce alternate or supplementary analysis, such as bill impacts, then these should be submitted with, and clearly cross-referenced to, the Business Plan. Where applicable, inputs to the BPFM should be linked to the corresponding BPDT.
- 6.2. We expect to pre-populate the BPFM with all the parameters set out in the finance section of the RIIO-ED2 Methodology Decision and forecast closing RIIO-ED1 price control financial model (PCFM) data, for example regulatory asset value (RAV). It will allow companies to populate with their plans to calculate expected allowed revenues. It will also be used for assessing the financeability of the plan and will include a suite of commonly used financial metrics.
- 6.3. Consistent with RIIO-ED1, the BPFM will primarily be set up to reflect the notional company. However, worksheets will be included to allow analysis of the actual company financing costs, structure and performance.²⁴
- 6.4. Companies must complete the BPFM in accordance with the Ofgem guidance set out here and in any guidance accompanying the BPFM, including incorporating Ofgem’s working assumptions for cost of capital returns. Companies must also include a financeability assessment for both the notional and actual company, including target ratings.
- 6.5. Business Plans must clearly set out:
- financial projections for each year of the RIIO-ED2 period.²⁵

²⁴ Guidance for modelling the notional and actual company base cases is provided in Appendix 5.

²⁵ Projections should be shown in table format with each year of RIIO-ED2 shown and should include allowed revenue breakdown, summary financial statements, and key financial ratios shown to 2 decimal places. It is not a general requirement to provide detailed financial performance projections or bill

- the company's target ratings and the key financial ratios and qualitative factors used to assess maintenance of those target ratings.
- the results of the Ofgem-suggested set of common stress test scenarios²⁶ with results clearly explained.
- a clear explanation of any additional stress test scenarios, including rationale, results and commentary of results.
- a clear explanation of the company's proposed capitalisation and depreciation rates and the basis for these proposals (for example, if proposed capitalisation rates match accounting treatment of opex and capex).
- if any adjustments to capitalisation or depreciation rates are proposed for financeability or bill smoothing purposes networks should include evidence for these adjustments and the level of customer support for such adjustments (and/or consideration of customer preferences).
- clear explanation of the company's dividend and equity issuance policy and strategy.²⁷
- fully completed BPDTs in accordance with the relevant Ofgem guidance that accompanies the BPDTs.

6.6. Business Plans must clearly demonstrate:

- a clear understanding of financial risk and evidence of risk management measures. This must include a clear explanation of the assumptions underpinning company

profile beyond the RIIO-ED2 period. However, if companies have concerns regarding longer term bill profile, financial performance or credit metrics we would invite companies to submit extended models, if appropriate.

²⁶ As outputs of the BPFM. These are set out in Table 19 of [RIIO-2 Sector Specific Methodology Decision – Finance](#) (gas distribution and transmission). In paragraph 4.10 of [Annex 3 to the RIIO-ED2 Specific Methodology Consultation](#) we propose that the stress test scenarios used in the gas distribution and transmissions sectors could also be applied to RIIO-ED2 business plans.

²⁷ If no such policy or strategy exists then the business plan should provide an explanation of why no policy exists and what the company expects might influence their decisions on dividends and equity issuance in RIIO-ED2.

risk and scenario analysis and a description of how risk analysis takes into account company actions for mitigating downside risks.

- an assessment of overall risk of the Business Plan, consideration of different notional gearing levels and realistic and well-explained proposals for notional gearing.
- justification for any proposed company-specific alternative cost of capital estimates (for example, for RAV-weighted debt index for networks with unusual RAV growth profiles), including customer support for any such alternatives.²⁸

6.7. Business plans must also include licensee board assurance that the Board is satisfied:

- that the licensee is financeable on both a notional and actual capital structure basis (using the Ofgem working assumptions for cost of capital allowances²⁹ and expected incentive outperformance³⁰), or
- that if any financeability challenges are identified, that the Business Plan clearly sets out, in detail, what these challenges relate to (for example, servicing equity or debt), what efforts could be made to address them and that all applicable measures to aid financeability have been considered, and is supported by evidence and justification.

²⁸ If any company elects to also submit alternative cases for cost of capital estimates other than those specified as working assumptions then this should be submitted in a separate document to the main Business Plan. In addition, any financeability assessment using different cost of capital working assumptions should be submitted as a separate document to the notional and actual financeability assessment based on the cost of capital working assumptions.

²⁹ To be confirmed at a later stage

³⁰ If applicable

7. Presentation and structure of plans

Presentation

- 7.1. Plans should be concise – no longer than 200 pages excluding BPDTs and the BPFM - with the emphasis on keeping the core text as short as possible, while presenting proportionate evidence and justification for the proposed expenditure and outputs.
- 7.2. Where the company needs to provide further, more detailed information, it should use annexes. Though annexes will not count towards the 200-page limit, companies should where possible ensure that the core Business Plan text contains all information relevant to Ofgem’s assessment of the plan. Annexes should be clearly signposted and referenced within the core Business Plan text.
- 7.3. Where more technical information needs to be submitted it ought to be provided in the annex documents. The company should ensure that the annexes are as clear and readable as the rest of the Business Plan. Business Plans should be clearly written, with considerable emphasis on making them as easy to read as possible (avoiding small font sizes).

Structure

- 7.4. Although Ofgem does not prescribe a particular structure that plans must follow, it is important to ensure that we can easily identify material contained in the plans and any annexes that will be relevant to our assessment. Companies should complete a Minimum Requirements Index Sheet³¹ to identify where material relating to the BPI minimum requirements can be found within Business Plan.

Cross-referencing

- 7.5. In order to successfully navigate the plans, companies should effectively cross-reference between different sections. Wherever possible, hyperlinks should be included when referencing any of the data tables, annexes or any further detail which is explored elsewhere in the plan.

³¹ The Minimum Requirements Index Sheet has been published alongside this document.

- 7.6. It is important to have clear links between the data tables and the core narrative sections. Data tables should be clearly numbered and any data in the narrative should be clearly linked to the relevant data table number (and hyperlink wherever possible). For each data table there should also be a link to where in the core text this data is discussed. For some data tables this may be more than one part of the plan that describes the data.

Business plans for DNO groups

- 7.7. DNOs that comprise more than one licence area should submit a single plan covering all of its licence areas. For the purposes of the BPI, Ofgem’s assessment will be carried out on the Business Plan as whole, rather than at the level of the licensee.

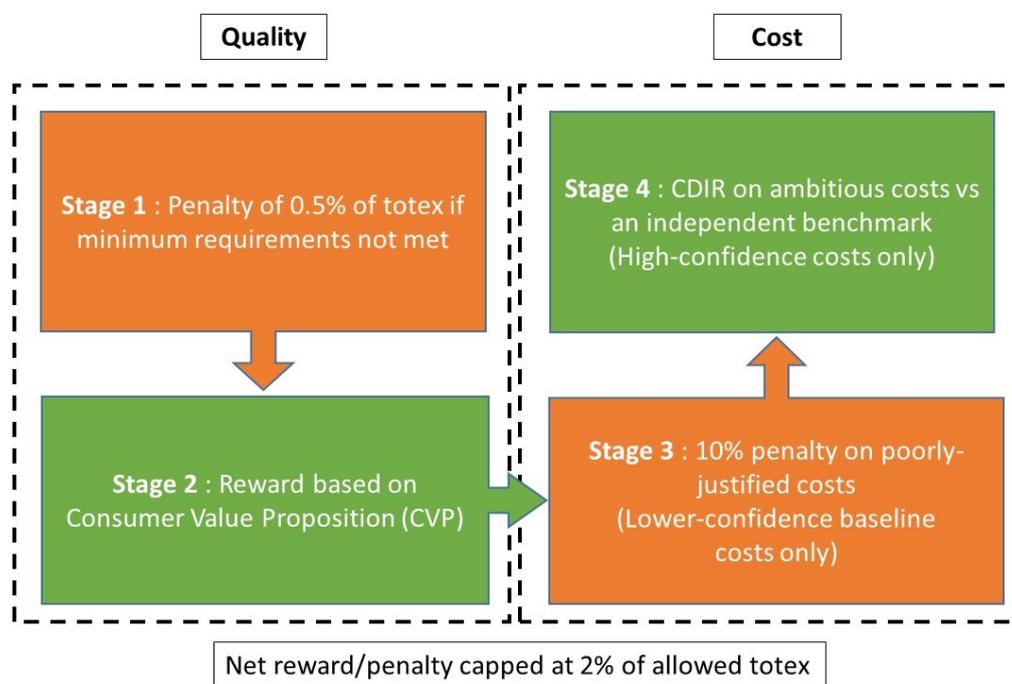
Summary tables for Outputs, Uncertainty Mechanisms and CVP proposals

- 7.8. To assist our review of Business Plans, companies should complete the bespoke proposal summary tables in which companies should include basic information about all of the Outputs, Uncertainty Mechanisms and CVP proposals that are set out in their plans. Companies should submit completed tables alongside their Business Plan.

8. The Business Plan Incentive

- 8.1. This section describes how Ofgem will go about assessing Business Plans for the purposes of the Business Plan Incentive (BPI).³²
- 8.2. The purpose of the BPI is to drive benefits for consumers by rewarding companies for plans that offer consumers additional benefits and value for money. Companies that submit Business Plans that fail to meet minimum requirements or that have poorly justified cost forecasts will incur a penalty.

Figure 1 – design of the Business Plan Incentive



- 8.3. This Guidance document sets out the minimum requirements that are relevant to the Stage 1 assessment and our approach to the Stage 2 assessment. Stages 3 and 4 of the BPI involve a separate assessment of the costs included within companies' Business Plans. This Guidance document does not provide detail on the approach Ofgem will take to cost assessment.

³² Information on the BPI is set out in Section 13 of [Annex 2 to the RIIO-ED2 Sector Methodology Consultation](#)

- 8.4. In assessing company Business Plans, Ofgem will also take into account the views of the Ofgem RIIO-2 Challenge Group and CEGs. This includes the assessment of:
- whether the minimum requirements have been met at the BPI Stage 1 assessment.
 - whether activities with associated costs included in the Business Plan are sufficiently well justified (including but not limited to the Stage 3 assessment).
 - whether and to what extent each company’s CVP genuinely represents additional benefits to consumers, including views on any quantification of such benefits.
 - Whether there are appropriately independent baselines to justify the classification of costs as high-confidence baseline costs (including but not limited to the Stage 4 assessment).

Stage 1: Minimum Requirements

- 8.5. We expect Business Plans to be fully justified and accompanied by all relevant evidence, including, where appropriate expert and legal evidence (on a confidential basis if need be).
- 8.6. To meet the minimum requirements, we expect the plan to be both complete and of a satisfactory quality. A plan that does not meet these requirements may be subject to a penalty.
- 8.7. For a plan to be complete under the Stage 1 BPI assessment, it must:
- contain all the material detailed in this Guidance (the relevant material is listed in the Minimum Requirements Index Sheet for ease of reference).
 - be presented in a clear and understandable manner and in line with the timetable for submissions.

- comply with Ofgem’s Data Assurance Guidance for Electricity and Gas Network Companies.³³
- demonstrate how the plan has been tested, challenged and developed using the RIIO-ED2 Enhanced Engagement process.³⁴
- include a clear explanation of what has changed in the Business Plan from the draft Business Plan.

and must also have regard to the guidance given in Section 4 of this document on the presentation and structure of Business Plans.

8.8. For a plan to be of satisfactory quality to meet the minimum requirements under the Stage 1 BPI assessment it will need to demonstrate that, where appropriate:

- the proposals are sufficiently evidenced, including evidence of consumer expectations and willingness to pay.
- there is a credible plan for delivery, that takes into account current levels of performance and any steps necessary to improve upon these.
- commitments are proposed that offer safeguards on the delivery of the Plan’s ambitions.
- the proposals have been informed by, and subject to the challenge of the enhanced stakeholder engagement process. Where disagreements with the company’s proposals have arisen, we will expect the company to have explained in their Plan the nature of this disagreement and the justification for the Company’s positions.

8.9. Any decision that a Business Plan has failed Stage 1 would be taken after we have carried out an assessment of the materiality of any failures of individual minimum requirements. We propose that this materiality assessment would take into account:

- The number of minimum requirements that have been failed.

³³ See <https://www.ofgem.gov.uk/publications-and-updates/data-assurance-guidance>

³⁴ See [Enhanced Stakeholder Engagement Guidance for RIIO-ED2 - Version 1](#)

- The extent to which our setting of the RIIO-ED2 price control has been impacted by the failure(s) in question (for example, due to missing or incomplete information).
- Any consumer detriment that may be expected as a result of the failure(s) in question.
- Any other information relevant to the materiality of the failure(s) in question.

8.10. For the avoidance of doubt, where Ofgem makes a decision that a Business Plan has successfully met the minimum requirements at Stage 1, that does not imply that Ofgem accepts all aspects of the plan (or relevant underlying evidence). Companies whose plans meet the minimum requirements will then have the opportunity of potentially receiving a reward and their plans will be assessed at Stages 2, 3 and 4 of the BPI process. This includes the potential for a licensee to face a penalty under Stage 3 of the BPI. Ahead of reaching a decision on the plans, we will consult on proposals in draft determinations, amongst other matters.

Stage 2: Consumer Value Proposition

8.11. Under Stage 2 of the BPI, we will assess what additional value beyond the minimum requirements the plan offers and beyond the functions typically undertaken by an energy network company as business as usual. Only companies that are assessed to have met all of the minimum requirements at Stage 1 will be able to earn a reward under this part of the BPI.

8.12. Under the CVP, Business Plans should set out the ways in which their plan goes beyond the minimum requirements and beyond the functions typically undertaken by an energy network company as business as usual and how this will lead to benefits for consumers. Ofgem will assess the proposals included within the CVP and determine whether a reward should be paid to the company and, if so, the size of the reward.

8.13. We propose that each CVP proposal should fall into one of the following categories:

- i) Proposals that demonstrate approaches to providing services to vulnerable consumers that clearly go beyond the baseline standards (see Appendix 1).
- ii) Proposals that demonstrate approaches to providing services to major connection customers that clearly go beyond the baseline standards (see Appendix 2).

- iii) Proposals that exceed the baseline standards that we have set out for EAPs (see Appendix 3).
 - iv) Proposals that demonstrate approaches to DSO activities that clearly go beyond the baseline standards set out in our roles and principles for DSO (see Appendix 4).
 - v) Proposals that exceed the minimum requirements that we have set out for whole system approaches in the whole systems section of this RIIO-ED2 Business Plan Guidance.
- 8.14. The CVP must be summarised clearly within the Business Plan. However, it may draw upon material that is embedded within each of the relevant areas that contribute towards the CVP.
- 8.15. Accompanying CVP proposals, DNOs should provide evidence of the associated additional value to consumers. Where possible, this evidence should be quantitative and independently substantiated and take into account any distributional impacts on different consumer. Companies should seek to provide a monetised value to consumers for each proposal forming part of its CVP. Companies should set out any methodology employed in determining this monetised value, along with any underlying data used in its calculation. Ofgem will take this information and other relevant information into account in determining whether a proposal should receive a reward and, if so, the size of that reward.
- 8.16. This monetised value should be at least £3m per proposal and not more than £10m proposal. The aggregate value of proposals should not exceed £50m and the total number of proposals should not exceed ten per Business Plan.
- 8.17. Each proposal forming part of the CVP will be assessed individually on its own merit. Where a company is unable to propose a robust methodology for calculating a monetised value to consumers associated with a proposal, Ofgem notes that it may be unable to determine an appropriate size of reward for that proposal, which may lead to the proposal receiving no reward.
- 8.18. Proposals forming a part of a company's CVP should be clearly and unambiguously identified as such.
- 8.19. If the company receives a reward under stage 2 of the BPI, Ofgem will consider whether it should include provision for the clawback of the reward in the event that

the commitment(s) in question are not delivered. Companies should consider this in their Business Plan submission and, where appropriate, commit to returning any associated rewards in the event of non-delivery.

8.20. In assessing a CVP proposal, Ofgem expects to consider matters including:³⁵

- whether the proposal goes over and above the minimum requirements under Stage 1 of the BPI.
- the extent to which the proposal represents additional value to consumers, taking into account the functions typically undertaken by an energy network company as business as usual. For example, we would not expect to reward activities currently undertaken by DNOs in RIIO-ED1.
- the extent to which the proposal includes evidence that shows how it incorporates consumer expectations/priorities and value (which may include willingness to pay).
- the extent to which the proposal has been reviewed by and received the support of the Ofgem RIIO-2 Challenge Group, the DNO's CEG or, otherwise, the extent to which reasons for the lack of such support are clearly and satisfactorily explained.
- whether the proposal includes a monetised consumer benefit and an associated monetisation methodology and the extent to which such a methodology is reasonable. A robust methodology may give us confidence that any rewards are appropriately sized and that customers are not paying too much for delivery of the proposal. For the avoidance of doubt, it is the responsibility of the DNO to propose a monetised consumer benefit and an associated monetisation methodology.
- the extent to which the monetised benefits associated with the proposal accrue to existing and future consumers including consumers in vulnerable situations.
- where a company makes a proposal that includes a commitment to deliver something within RIIO-ED2 (for example, a commitment to complete a project), whether arrangements to address the possibility of non-delivery are set out and

³⁵ This list is not exhaustive.

the extent to which such arrangements for non-delivery are appropriate and implementable.

- 8.21. Where a CVP proposal relates to the delivery of something within the RIIO-ED2 period and is rewarded, Ofgem expects to determine the size of the reward by multiplying the net consumer value by the company's totex efficiency incentive rate. This is to help ensure that companies do not spend more in delivering the benefit than the value of that benefit to consumers.
- 8.22. It may be the case that companies include additional costs in their forecasts associated with the delivery of CVP proposals. Where this is the case, Ofgem will consider any consumer benefit that arises from the proposal net of these costs. If these costs are clearly identified within companies' forecasts, Ofgem will be able to exclude them from relevant benchmarking exercises. If such costs are included in forecasts but not clearly identified (and are therefore included in relevant benchmarking exercises), this could have an impact upon the assessed level of efficiency of the company.
- 8.23. Where a company includes a proposal for an uncertainty mechanism as part of its CVP, this should include an assessment of the likelihood of the mechanism being utilised in the RIIO-ED2 price control period.

9. Next Steps

9.1. RIIO-ED2 will start in April 2023. As part of the RIIO-ED2 process, companies will also be expected to submit both draft and final Business Plans to the Challenge Group. Our indicative forward workplan for RIIO-ED2 is below in Table 2. We started the consultation process via our Open Letter consultation for RIIO-ED2 in August 2019.

Table 2 - Indicative timeline for RIIO-ED2

Date	Milestone
30 July 2020	Sector Methodology Consultation
December 2020	Sector Methodology Decision and Final Business Plan Data Templates issued
1 July 2021	Draft Business Plan submission to Ofgem and RIIO-2 Challenge Group
1 December 2021	Final Business Plan submission to Ofgem and RIIO-2 Challenge Group
Quarter 1 2022	Open Hearings
June 2022	Draft Determinations
December 2022	Final Determinations Statutory consultation on RIIO-ED2 licence
February 2023	Decision on RIIO-ED2 Licence
1 April 2023	Start of RIIO-ED2

Appendix 1 - Improving service standards for consumers in vulnerable situations: principles and baseline standards

1.1. The following are the principles and baseline standards of performance that we expect DNOs to deliver for consumers in vulnerable situations. DNOs' strategies for vulnerable consumers should be aligned to these principles and standards.

1.2. Where a DNO considers the baseline standard is not appropriate, the DNO should provide clear justification as to why this is the case. Where relevant, this should be supported by stakeholders and the DNO's CEG.

Principle 1: Effectively support consumers in vulnerable situations, particularly those most vulnerable to a loss of supply, through a sophisticated approach to the management, promotion and maintenance of a PSR register.

1.3. As a baseline standard, we expect DNOs to:

- undertake proactive and targeted advertising of the PSR and the services offered to vulnerable consumer groups. By targeted, we mean towards specific areas of highest need or where data analysis suggests there are gaps in PSR reach.³⁶
- have an effective data and information strategy in place specific to meeting the needs of vulnerable consumers. This should include effective PSR database maintenance with customer data checks at least every 24 months. Data analysis should be used to inform the development and delivery of service offerings. DNOs should also align the approach to data sharing with suppliers and other utilities to get customers onto the PSR to the requirements of Data Best Practice.
- provide information for PSR customers in formats suited to a range of additional communication needs.³⁷ For accessibility services, companies should meet a minimum

³⁶ PSR Reach is defined as registrations to a DNO's PSR Register by need code.

³⁷ Under SLC 10, DNOs must provide information, with regards to a supply interruptions, to a PSR customer with additional communication needs in a manner or format that is suitable for that customer's additional communication needs.

standard of Accessibility AA. Translation services should be available for at least the top 10 Languages in a DNO area.

- have dedicated lines, and or prioritisation, available for customers registered on PSR when they need to contact the DNO. PSR Reach is defined as registrations to a DNO's PSR Register by need code. Under SLC 10, DNOs must provide information, with regards to a supply interruptions, to a PSR customer with additional communication needs in a manner or format that is suitable for that customer's additional communication needs.
- deliver a wide range of support during, or in relation to, a supply interruption that reflects different customer needs and is, at a minimum, in line with existing provision. There should be a clear link between the information held about PSR customers and how this is used to target, or prioritise, support. We consider a wide range of support could include, but is not limited to, crisis packs, hot meals and drinks, mobile generation, alternative accommodation or on-site welfare units. We would expect there to be multi-channel information provision during supply interruptions. Companies can deliver this support directly or through/in conjunction with partner agencies.

Principle 2: Maximise opportunities to identify, and deliver support to, consumers in vulnerable situations through smart use of data.

1.4. As a baseline standard, we would expect DNOs to:

- utilise social indicator or vulnerability mapping to inform their service development and partnership strategy. This approach may form part of the PSR management, but the identification of vulnerability should not be limited to PSR registrations.
- maintain a good understanding of the social issues associated with the scope of the DNOs role, the prevalence of these within their consumer base and how they are evolving.

Principle 3: Understand new forms of vulnerability, in particular by identifying blockers to participating in a smart flexible energy system.

1.5. As a baseline standard, we expect DNOs to:

- have an extensive network of partnerships with a range of organisation types, including from beyond the energy sector.
- make effective use of referral channels and signposting support to customers. This will primarily be done through customer service teams, but we expect DNOs to seek opportunities to maximise consumer touchpoints.
- be involved in two-way flow partnerships supporting vulnerable customers, in line with the companies understanding of social issues in their region. This should include the network company having direct involvement in the end to end process of delivering support, providing expertise and co-creating schemes. Where appropriate, we would expect to see example schemes where the DNO is taking a leading role.
- have a clear process for identifying which partnerships are likely to be most effective at delivering benefits through co-operative working. This should be clearly linked to the priority areas of focus of the strategy, in particular addressing fuel poverty and supporting those at risk of being left by the energy system transition.

Principle 4: Embed the approach to protecting the interests of consumers in vulnerable situations throughout a company's operations to maximise the opportunities to deliver support.

1.6. As a baseline standard, we would expect DNOs to:

- have processes in place for embedding a commitment to protecting the interests of vulnerable customers. This should include a well justified approach to ensuring all staff have received an appropriate form of vulnerability training to maximise the potential from all customer touchpoints. Companies should have make use of external advice and support to set strategic direction, such as a vulnerability advisory or research panel. DNOs should appoint a vulnerability champion at senior management or board level.
- seek opportunities to protect vulnerable customers throughout their capabilities

Appendix 2 - Improving service standards for major connections customers: principles and baseline standards

1.1. The following are the principles and baseline standards of performance that we expect DNOs to deliver for major connection customers. DNOs' strategies for major connections customers should be aligned to these principles and standards.

1.2. Where a DNO considers the baseline standard is not appropriate, the DNO should provide clear justification as to why this is the case. Where relevant, this should be supported by stakeholders and the DNO's CEG.

Principle 1: Support connection stakeholders to make informed decisions by providing accurate, comprehensive and user-friendly information

1.3. The purpose of this principle is to ensure that DNOs provide sufficient, and high quality, information to connection stakeholders so they are able to make informed decisions about connecting to the distribution network.

1.4. Stakeholders rely on the DNO for information in order to decide how, and where, to connect to the distribution network. DNOs should ensure that all the information they provide to connection stakeholders is accurate and set out in plain English so that all connection stakeholders can understand. DNOs should also ensure all information is sufficiently comprehensive and tailored to the needs of the customer.

1.5. As a baseline standard, we expect DNOs to:

- establish and maintain up to date guidance on how, and where, customers can connect to the distribution network. This should include information about the application and delivery process. It should also include the provision of heat maps, capacity registers, Long Term Development Statements (LTDS) to clarify, at a granular level, where capacity is available, where network services may be beneficial, and likely curtailment levels in constrained areas.
- offer a range of connection options which suit customers' requirements, including where customers are looking to provide energy services, for example to the System Operator.

- provide customers with clear connection quotation cost breakdowns, listing out the cost components and any assumptions used in the formulation of a quote. This should include:
 - Simple explanations of products and pricing options.
 - Clear outline of what prices include and exclude, including contestable cost elements.
 - Where appropriate, the likely implications for the customer’s connection offer if any changes arise, either as a result of changes to their own requirements or because of other customers that are seeking to connect in the same area.
- specifically in relation to flexible connection customers, provide clarity around conditions and circumstances of current and future curtailment, including in areas with transmission constraints.
- where flexible or alternative connections are not available in constrained areas, provide information about when these types of connection will become available. If not, the DNO should explain why this information is not available and when it will be.
- where consortium connections are available, provide clear and detailed information about where, how and under what conditions such projects can proceed.

Principle 2: Deliver value for customers by ensuring simplicity and transparency at all stages of the connections process

1.6. The purpose of this principle is to ensure that DNOs take the appropriate steps to make connection processes simple and transparent, so that customers receive a streamlined service from application to connection completion. In particular, the DNO will need to have effective communication and engagement processes in place, not only to respond to customers’ needs when they arise but also to ensure they are proactively engaging with stakeholders, understanding their needs and improving their processes accordingly.

1.7. As a baseline standard, we expect DNOs to:

- have clear and simple customer journey process, which accounts for the particular needs of different groups of customers and which is effectively communicated to customers and delivery partners. This should include:
 - tailored communication plans to suit different customer needs, including specified engagement methods and points of contact during the connection process.
 - clarity on DNO, customer and third-party responsibilities.
 - regular updates on project/connection.
- provide good customer service to connection stakeholders along the customer journey. This should include processes to manage customer accounts and resolve any issues that arise, including a process for escalating issues.
- have robust and processes in place to proactively engage with connection stakeholders. This should include how the DNO plans to both identify and address connections issues.

Principle 3: Facilitate the delivery of timely and economical connections that meet customers' needs.

1.8. The purpose of this principle is to ensure that DNOs take appropriate steps to identify efficiencies in the connections process to deliver timely and economical connections for customers. This should include consideration of more efficient ways of doing things as well as introducing innovative connection solutions to reduce costs, and improve connection timescales, for customers.

1.9. As a baseline standard, we expect DNOs to:

- Have processes to help customers identify how they could make changes to their connection requirements, that would meet their needs and allow them to get connected quicker or cheaper.
- Ensure the availability of flexible connections for all customers, including storage.

- Where there are slow moving projects, and where these are impacting on other customers, or existing customers that are materially underutilising capacity in constrained parts of the network, have processes in place for releasing capacity that is not being used.
- Have processes in place for the promotion of certain types of customers (such as storage) in connection queue if it will help others connect more quickly/cheaply.
- DNOs to show consideration of innovative connection solutions for customers which may include, amongst other things, improved coordination with other utility connection providers and between connection customers.

Appendix 3 - Environmental Action Plan (EAP): baseline standards

1.1. DNOs' EAPs should be aligned to the baseline standards set out below. The baseline standards reflect the level of ambition we expect companies to demonstrate for individual areas.

1.2. Where a DNO considers the baseline standard is not appropriate, the DNO should provide clear justification as to why this is the case. Where relevant, this should be supported by stakeholders and the DNO's CEG.

Business carbon footprint (BCF)

- Adopt a science-based target for the company to reduce its scope 1 and 2 BCF by 20xx³⁸, without relying on international GHG offsetting, that is in line with Net Zero.
- Commit to efficient and economic actions to reduce controllable BCF in RIIO-ED2.
- Identify metrics, and associated targets, for RIIO-ED2 to track the impact of implementing actions and the overall progress towards the science-based target and Net Zero, against a consistent baseline.
- Commit to reporting on BCF reduction and progress towards science-based target and Net Zero using the common BCF methodology. Reporting should include progress in reducing scope 3 emissions.³⁹

³⁸ 20XX denotes that companies will need to specify a long term date to achieve the specified target. We would then expect companies to specify the associated RIIO-ED2 milestone.

³⁹ Scope 3 emissions are a consequence of actions which occur at sources which the DNO does not own or control and which are not classed as Scope 2 emissions. Although a DNO's science-based target does not include scope 3 emissions, DNO's reporting should include progress against reducing scope 3 emissions.

Sulphur Hexafluoride (SF6)

- Commit to efficient and economic actions to reduce leakage rates and improve management of SF6 assets.
- Adopt target(s) for SF6 leakage and/or SF6 asset management.
- Commit to reporting on total SF6 bank and leakage reduction rates using a common DNO methodology.

Losses

- Develop and commit to implementing a strategy to efficiently manage both technical and non-technical losses on the DNO's network over the long term. This should include specific actions and performance measures to track the impact of actions in RIIO-ED2.
- Commit to reporting on the progress of implementing the losses strategy and associated performance measures.
- Contribute to the evidence base on the proportion of losses that network companies can influence/control.

Embodied carbon

- Commit to monitoring and reporting on embodied carbon in new projects.
- Commit to collaborating with DNO's supply chain on addressing challenges to reduce embodied carbon in the network.
- Commit to establishing baseline and a target to reduce embodied carbon on new projects during RIIO-ED2.

Supply chain

- Adopt high standards of environmental management in supplier code, including requirements for public disclosure of metrics and cascading code to their suppliers that are material to company's inputs.

- Adopt target of more than 80% of suppliers (by value) meeting code in RIIO-ED2.
- Commit to reporting on actual percentage of suppliers (by value) meeting code.

Resource use and waste

- Update procurement processes to embed Circular Economy principles.
- Adopt a target for:
 - Zero waste to landfill by 20XX.
 - Recycled and reused materials as a percentage of total materials by 20XX.
- Commit to reporting on actual waste to landfill, recycling and reuse as a percentage of total.

Biodiversity/natural capital

- Adopt appropriate tool to assess net changes in natural capital from different options for new connections and network projects.
- Adopt appropriate tool to monitor the provision of ecosystem services from network sites and report annually.

Fluid-filled cables

- Adopt a target for reductions in the volume of fluid (oil) used to top up cables.

Noise pollution

- Commit to reporting on actions taken to reduce noise pollution.

NOx and air quality

- Commit to reporting on actions taken to reduce NOx.

Appendix 4 - DSO roles and principles in RIIO-ED2

Role 1: Planning and network development

1.1. The drivers for network investment in RIIO-ED2 are different and more complex than at the start of RIIO-ED1. For example, electrification of heat and transport could result in greater and more volatile demand and generation patterns. At the same time, DNOs will have an increasingly comprehensive array of tools to forecast their network needs, and a wider range of options to resolve those needs.

1.2. Consumers will benefit where DNOs build efficient levels of capacity, using both network and flexibility solutions. Decisions on network needs and solutions must be transparent and built on robust evidence bases that embed uncertainty. Flexibility must be valued fairly, recognising the option value it provides. Meanwhile, providing more insight into the development of the network can signal opportunities for market participants to provide economical flexibility solutions.

1.3. DNO network planning and forecasting processes are opaque at present, limiting scrutiny on best practice and reliable data driven decision-making. Further, where there are recognisable actions, there is a lack of clarity on how processes are joined together. 'End-to-end network planning' must be better articulated, not least as network developments and decision-making becomes more complex.

Principle 1.1: Plan efficiently in the context of uncertainty, taking account of whole electricity system outcomes, and promote planning data availability

1.4. The purpose of this principle is to ensure that DNOs' planning processes are clear, that high quality, data driven decisions are made, and that DNOs provide stakeholders with relevant information to inform their own decision-making.

1.5. Our proposed baseline expectations are:

- DNOs to define and develop enhanced forecasting, simulation and network modelling capabilities, with processes in place to drive continual improvement. We expect increased monitoring equipment to be rolled out across their network where it has demonstrable net value for the DNOs or network users. DNOs should also explore all reasonable options to use data from third parties, including smart meter data, to improve their simulated forecasting.

- DNOs have in place standard and effective processes for sharing network planning information: to other network licensees, including the ESO; to network users and also beyond network users, for example to enable innovation and support the development of local government plans for decarbonisation. As part of this, we expect DNOs to publish comprehensive heat maps that provide network users high value information about where to connect and to inform their operations. These geographic information system datasets should be available for download or for access independently of DNO websites (for example, via Web Map Service server connections).
- DNOs to have in place transparent and robust processes for identifying and assessing options to resolve network needs, and using competition where cost effective. This should include engaging with other network companies, current and prospective network users to support identification of solutions. DNOs should explore smart network control options including network reconfiguration and voltage control where these do not have detrimental impacts on network users' electricity supply quality. Options must be fairly compared against one another, with flexibility used where it is economic and efficient over the long term compared to investing in traditional reinforcement or technological solutions. We expect a consistent approach for valuing flexibility, taking into account the option value it provides in the context of uncertainty. DNOs must ensure transparency in their approach to allow scrutiny of decision-making.

Role 2: Network operation

1.6. DNOs must operate their networks safely, adapting their behaviours to reflect new variable generation and loads. We also expect DNOs to identify and use new operability tools and approaches that minimise network losses and maximise the efficiency of network capacity. This includes smarter use of existing assets, the promotion of the uptake of energy efficiency measures where this cost effectively alleviates the need to upgrade or replace electricity capacity and supports the efficient and secure operation of the distribution system, and deployment of flexibility. Flexibility should be dispatched on an economic and efficient basis. This will require sufficient availability of network and DER data, and the sharing of that data with the ESO to manage conflicting requirements.

1.7. Whilst we have clearly stated that DNOs should provide a range of DSO functions, the capabilities under network operations should not be developed in such a way that precludes a third party from accessing data or operating systems in future.

Principle 2.1: Promote operational network visibility and data availability

1.8. The purpose of this principle is to ensure that DNOs are able to share relevant data on network operations to stakeholders, and to ensure that DNOs have sufficient network knowledge to operate their network under safe and reliable conditions.

1.9. Our proposed baseline expectations are:

- DNOs to improve network visibility, and identification and sharing of operability constraints, including to enable avoidance of conflicts, for example where the ESO can avoid procuring services from an asset connected to an already congested part of the distribution network.
- DNOs to provide the ESO with information across timescales about the DER it is planning to instruct to dispatch. Sharing this information closer to real-time should enable the ESO to identify which DER are available for its own needs, and ultimately improve the ability of DER to stack value across markets.
- DNOs to gather sufficient information on DER availability to aid securing against DER losses.
- DNOs to make available operational data that supports network users and other relevant stakeholders to make better decisions about how to use the network.

Principle 2.2: Operate an economic and efficient distribution system

1.10. This principle is about defining and developing system operability capabilities and the actions network companies take to operate the distribution system safely. The aim is to ensure DNOs facilitate dispatch of DER that is economic and efficient. Principally that means (i) applying a transparent, economic and efficient framework for sending dispatch instructions and (ii) that the underpinning IT and OT infrastructure is scalable and allows cost-efficient participation.

1.11. In the near term, including for the start of RIIO-ED2, we believe the DNO is the right entity to own the decision-making framework for what should be dispatched in real-time on their networks and for sending the dispatch instructions for DSO ancillary services, in order to maintain the distribution network within operability limits. As they deliver this and the underpinning IT and OT infrastructure, they need to have clear governance arrangements for

the development of that framework, including potential for codification and stakeholder input, and transparency in how they are applied.

1.12. In RIIO-ED2, DNOs shall not procure ancillary services from flexibility providers on behalf of the ESO or otherwise act as the commercial route to market for flexibility providers. We do however recognise there will in some cases be a need for DNOs to set parameters for what the ESO can procure from the distribution network to maintain safe operation of the network.

1.13. As a proposed baseline standard, we expect:

- DNOs to have and regularly review a decision-making framework for when DER are instructed to dispatch in real-time to provide DSO ancillary services. This shall be to promote coordination across services (including curtailment as part of non-firm connection agreements) to maximise liquidity, avoid market fragmentation and ensure dispatch results in the best outcome for the whole system.
- As part of this decision-making framework, there must be rules in place for coordinating dispatch instructions for DSO and ESO ancillary services. This could be through primacy rules or more comprehensive optimisation processes that better enable stacking of revenues for DER. The rules should be transparent and objective, with an intention to promote whole system efficiencies.
- The DNOs shall facilitate secondary trading of DSO ancillary services and curtailment obligations (pending the outcome of the Access SCR). In this context, facilitate means provide the relevant operational data, ensure the DNO has processes in place to collect the relevant data about the trade, and make the operational parameters clear (and justified in the context of network reliability and efficiency). Facilitating does not mean communicating bids and offers about these trades to enable commercial agreement, make decisions about matching bids and offers, or dispatching these trades – third parties skilled in this area should be better placed to more efficiently deliver this.
- DNOs to introduce clear processes for the design, development and communication of the decision-making framework. These should include transparent and participatory processes for stakeholder input.
- DNOs to develop efficient, scalable dispatch instruction infrastructure. We expect standard application protocol interfaces or otherwise avoidance of proprietary systems

so that third parties can operate dispatch infrastructure, for example for the ESO instructing dispatch for an ESO ancillary service, and so DER can simply interface with multiple DNOs' systems without having to invest in multiple dispatch systems.

- We expect clear definitions of different types of dispatch instruction for DSO ancillary services and transparent rules about when and in which markets they should be used. DNOs should not directly dispatch (have 'hard control' on) customer assets, except potentially in clearly defined and justified exceptional circumstances. Definitions of these circumstances should be developed with input and cooperation from network users. The application of hard dispatch controls shall be to the improved reliance on market-based mechanisms, not to the detriment of their development.
- Capabilities in network operations, for example in dispatch instructions and associated system architectures shall not be hard coded to the DNO. These must be developed so that they can be cost effectively assigned to another party in future, if this is needed.

Role 3: Market development

1.14. Effective, coordinated flexibility markets will be essential to efficiently use network capacity and support national system balancing in a context of highly distributed and variable generation and load. The DNO must act as a neutral facilitator of markets. This means network users should be able to simply identify opportunities to participate in markets, understand how the markets interact, be able to trade with other network users, and offer network and system services to the ESO, and for those services to be coordinated to result in whole electricity system efficiencies.

1.15. We recognise principles in 'insights, planning and forecasting' and 'network operation' roles contribute to market facilitation.

Principle 3.1: Provide accurate, user-friendly and comprehensive market information

1.16. The purpose of this principle is to ensure that DNOs are able to sufficiently inform stakeholders of information that will assist them in participating in, managing or otherwise engaging with markets in the long and short term. We recognise there are overlaps across other principles, but at the same time believe this information is sufficiently critical to warrant its own statement, and to also include wider information that that mentioned in prior principles.

1.17. It is incumbent on DNOs to share all relevant and valuable information to enable markets wherever possible. But this principle is also about how that valuable information is identified, and how it is shared to be as useful as possible.

1.18. Ensuring the information is comprehensive, user-friendly and accurate is essential for the efficient development and operation of flexibility markets. This principle applies to all the information required under other principles, as well as other information that supports the development of flexibility markets.

1.19. Our proposed baseline expectations are:

- DNOs collate and publish as much relevant data and information as reasonable that will help market participants identify and value opportunities to provide network services to DNOs and take market actions that support efficient whole electricity system outcomes. Relevant data and information includes planning and operational data (such as that set out in principle 1.1 and 2.1). This should be provided with sufficient lead times to enable wider participation in DSO ancillary service markets. It also includes information on historic and future DSO ancillary service market actions. This should include tender results, prices bid and paid, the carbon content of aggregated units, how often DER is dispatched (and volumes) and other actions taken by the DNO (with anonymisation of DER as required), including curtailment as part of non-firm connection agreements. The information should support DER to identify revenue opportunities. DNOs should develop robust strategies for how they will collate and publish more helpful information, wherever possible consistent and in coordination with other network licence holders, and communicate this clearly.
- DNOs should regularly and actively engage with market participants to understand what data and information is helpful, and the most effective format and frequency of publishing that data to ensure it is user-friendly. The information must be easily accessible and navigable. We expect this includes publishing data in machine-readable formats. DNOs should tailor both their information provision and engagement approaches, reflecting different needs of market participants. Where appropriate, collaboration across DNOs in engagement is expected to reduce duplication and avoid stakeholder fatigue.
- DNOs should seek continuous improvement to ensure the information they publish is accurate and unbiased (ie correct at time of publication, as close as possible to the actual value and not skewed in any direction).

Principle 3.2: Simple, fair and transparent rules and processes for procuring DSO ancillary services

1.20. The purpose of this principle is to ensure DSO ancillary service market design leads to good competitive outcomes, including downward pressure on prices and innovative services.

1.21. The widest reasonable range of DER should be able to simply engage with the DNO's DSO ancillary service markets and stack value across multiple flexibility markets. DER should be able to access revenues where they provide value to the DNO via simple market processes. Synergies in procurement with other markets (ie where one flexibility action can meet two system needs at the same time) should be harnessed, and conflicts (eg where a flexibility action to meet an ESO need creates a distribution cost) should be minimised. This principle is distinguished from Principle 2.2 by its focus on the network user-centric aspects of market engagement rather than the DNOs' operability processes (which might not be visible to network users). Primarily, this principle means DNOs design market-based mechanisms that allow market parties to operate effectively across multiple markets and provide value to the energy system.

1.22. Our proposed baseline expectations are:

- DNOs to have rolled out standardised DSO ancillary service products, processes and related contracts that align with network needs and promote ease of participation for providers.⁴⁰ Any DNO area specific products should be sufficiently aligned with the principles and governance arrangements for standardised products, ie so that they are simple to engage with.
- DNOs should identify the optimum combination of longer and shorter term lengths of markets and contract lengths reflecting the network need, different characteristics of DER, and liquidity and the opportunities for innovation and dynamic competition. Individual decisions and frameworks for deciding market timeframes and contract lengths should be transparent, informed by stakeholders and justified as promoting economic and efficient markets.

⁴⁰ Standardisation of the technical parameters of the product, processes and the applicable contracts, not just in branding, with clear justification for any deviations.

- Clear governance arrangements for how products and contracts are developed and amended on an ongoing basis as appropriate. These must ensure flexibility providers and other relevant stakeholders input into their development and decisions must be transparent and justifiable, with an objective to enable as wide participation in DSO ancillary service markets as possible. They should be adaptive to reflect prevailing system needs, type and availability of flexible resources.
- Clear, comprehensive and transparent mechanisms and associated commercial structures for coordinating DSO and ESO ancillary services procurement. DNOs shall not act as the commercial route for DER accessing ESO ancillary services, but transparent (and possibly tripartite) commercial agreements may be required to reflect potential effects of DER dispatch on distribution system operability and the role of DNOs in setting dispatch parameters (as set out in Principles 2.1 and 2.2). These agreements should remove exclusivity clauses as far as possible. Coordination on dispatch parameters should enable a closer to real-time understanding of what DER needs to be armed and available for a particular service, and what can be available to provide other services. Meanwhile, arrangements should enable remuneration for providing flexibility that fulfils an ESO and DNO need that effectively incentivises such whole system efficiencies.
- DNOs should enable secondary trading, for example capacity and other peer-to-peer trading. Enabling includes defining, communicating and justifying the parameters in which these trades can take place for operability purposes.
- Market support services, such as pre-qualification, credit-checking and settlement must enable simple and cost-efficient participation in markets. DNOs should enable, and never prevent, the opportunity for third parties to provide these services where they could do so more efficiently. Qualification criteria should be standard across DNOs, and with ESO markets where practicable, and share IT infrastructure where efficient.
- DNOs to introduce other measures, developed with robust stakeholder engagement, to address actual and perceived conflicts between its market development and network

ownership roles or other business interests.⁴¹ This might include ring-fencing of particular teams and external auditing of objectivity in addition to measures that promote transparency and enable scrutiny.

- Third party platform providers can add value to flexibility providers in offering new routes to market. DNOs must not prevent the emergence of this sector, but should promote coordination of DSO ancillary services and interoperability across these platforms in order to avoid market fragmentation. This might include through standard APIs, clear decision-making rules and data standards, so that multiple platform providers can 'plug-in' to DNOs' flexibility procurement processes and offer new commercial routes to market.

⁴¹ Other business interests could include services DNOs are able to provide outside of their regulated income. Earlier this year we consulted on DNOs using remote voltage control to provide the ESO with balancing services (CLASS) in RIIO-ED2. We are carefully considering the responses to this consultation, and expect to provide an update in the autumn.

Appendix 5 - Financial Modelling of Notional and Actual Company Financeability Assessments

1.1. For the purposes of modelling the notional company base case we provide the following guidance:

- Allowed return (WACC) [to be confirmed].
- Additional expected return of [x]% of equity portion of RAV representing an earned amount for the notional company in each year of RIIO-ED2.⁴²
- Totex allowances are assumed to equal Network totex cost forecast for RIIO-ED2.
- Net debt is reset to the working assumption notional gearing level ([x]% net debt to RAV) at the start of RIIO-ED2, with any opening de-gearing assumed to be achieved by an equity injection or re-gearing assumed to be achieved by debt issuance.
- Debt costs are assumed to equal the working assumption for allowances set out in the RIIO-ED2 Methodology Consultation.
- [x]% of the network's debt is assumed to be CPIH linked (with a scenario test showing an alternative of [x]% RPI-linked debt).
- Tax allowances are equal to tax costs, as calculated using the BPFM.
- Immediate transition to CPIH from 1st April 2023 for WACC allowance and RAV calculations.
- Opening RAV to be based on totex forecasts for RIIO-ED1 as provided in BPDT submission, and inclusive of any known logged-up adjustments (for example, the effect of site disposals).

⁴² If applicable

- Lagged revenue impacts arising from RIIO-ED1 are excluded (eg inflation true-up, cost pass-through adjustments, output incentive revenue and over / under collection of revenue).
- Depreciation rates to be proposed by the network based on useful economic lives and/or evidenced justification.
- Capitalisation rates to be proposed by the network based on operational practice to date, consideration of expected levels of opex and capex, balance of affordability, financeability and customer support.
- Dividend yield working assumption for modelling purposes of [x] %.
- Equity issuance transaction costs working assumption of [x] % of any amount forecast to be issued.

1.2. For the purposes of modelling the actual company base case we provide the following guidance:

- Allowed return (WACC) [to be confirmed].
- Incentive bias of [x] % of equity portion of RAV representing an earned amount for the actual company in each year of RIIO-ED2.
- Totex allowances are assumed to equal Network totex cost forecast for RIIO-ED2.
- Net debt to reflect actual company forecast net debt position for each year, as completed in the finance tables of the BPDTs.
- Debt costs to reflect actual company forecast for debt costs, as set out in finance tables of BPDTs.
- Proportion of inflation linked debt and proportion of interest expense that is principal inflation accretion in each year to reflect actual company forecast, as set out in finance tables of BPDTs.
- Tax allowances are equal to notional company tax allowances.

- Modelled forecast actual tax costs, incorporating forecasted financial information as per BPDTs.
- Immediate transition to CPIH from 1st April 2023 for WACC allowance and RAV calculations.
- Opening RAV to be based on totex forecasts for RIIO-ED1 as provided in Business Plan Data Template submission, and inclusive of any known logged up adjustments (for instance the effect of site disposals).
- Lagged revenue impacts arising from RIIO-ED1, where these are expected, should be included if relevant (e.g. such as MOD from related RIIO-ED1 revenues, legacy revenue adjustments, forecasts on other non-base revenue items).
- Depreciation rates to be proposed by the network based on useful economic lives and/or evidenced justification.
- Capitalisation rates to be proposed by the network based on operational practice to date, consideration of expected levels of opex and capex, balance of affordability, financeability and customer support.
- Dividend and equity issuance to reflect actual company dividend policy and forecast equity issuance, as set out in finance tables of BPDTs.
- Equity issuance transaction costs as forecast by network for forecast equity issuance.