Consultation

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Making a positive difference for energy consumers

RIIO-2 Draft Determinations – Electricity System Operator

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Our aim for the RIIO-2 price controls is to ensure energy consumers across GB get better value, better quality of service and environmentally sustainable outcomes from their networks.

In May 2019, we set out the framework for the price controls in our Sector Specific Methodology Decisions. In December 2019, Transmission and Gas Distribution network companies and the Electricity System Operator (ESO) submitted their Business Plans to Ofgem setting out proposed expenditure for RIIO-2. We have now assessed these plans. This document, and others published alongside it, set out our Draft Determinations for company allowances under the RIIO-2 price controls, for consultation. We are seeking responses to the questions posed in these documents by 4 September 2020. Following consideration of responses, we will make our Final Determinations at the end of the year.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at Ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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1. Introduction

Purpose of this document

1.1 This document sets out our Draft Determinations and consultation positions for the electricity system operator (ESO) RIIO-2 price control. This price control will cover the five-year period from 1 April 2021 to 31 March 2026.[1] All figures in this document are in 2018/19 prices except where otherwise stated.

1.2 The structure of this document, and how if fits in with the wider RIIO-2 Draft Determinations publications, is set out in Figure 1 below.

What do we expect the ESO's RIIO-2 price control to deliver for consumers?

1.3 The ESO has a central role in our energy system. It performs a number of important functions from the real time operation of the system, through to market development, managing connections and advising on network investment. On 1 April 2019, the ESO separated from National Grid Electricity Transmission (NGET), and became a legally distinct company within the National Grid Group. This separation is intended to further enable the ESO to develop its own vision for its system operator role and to place wider system and consumer interests at the heart of its decision-making.

1.4 Achieving a Net Zero energy system is likely to require fundamental change to how our gas and electricity networks are built and operated. It is vital the ESO responds to this challenge and plays its part in delivering a zero carbon energy system at lowest cost to consumers. RIIO-2 will be the first price control that is specifically tailored for the ESO and aims to enable and incentivise the ESO to step up to this challenge.

1.5 The ESO has significant opportunity to unlock substantial benefits for consumers by helping to shape the best pathway to Net Zero. For the ESO to make the most of these opportunities, and to maintain a reliable and resilient system, we need the ESO to be proactive, forward-looking and ambitious. We also need it to work more closely with other industry parties and wider stakeholders to ensure there is

[1] For certain elements, such costs and outputs, our proposals are applicable for the ESO's two-year business plan period from 1 April 2020 to 31 March 2023. This is explained throughout the document.

a coordinated, whole system approach to solving system challenges. Finally, we need the ESO to be agile and ready to adapt to emerging issues.

1.6 The ESO's RIIO-2 price control will support this by providing:

- incentives that focus predominantly on the ESO's Business Plan outputs, recognising that much greater value for consumers is drawn from the ESO's reforms to deliver wider energy system outcomes than on achieving efficiencies within its internal expenditure;
- funding arrangements that will allow the ESO to deliver what matters most for energy consumers and adapt quickly as priorities change;
- the flexibility to accommodate new or expanded responsibilities for the ESO as the decarbonisation pathway continues to evolve; and
- a tailored package of financing arrangements that recognise the ESO's unique risk and characteristics and presents value for money for consumers.

1.7 Over the course of RIIO-2, we expect to see the ESO deliver its RIIO-2 ambition[2] and gone further in some areas. This includes the ESO:

- having the ability to operate the electricity system carbon free by 2025;
- ensuring all types of technologies and solutions are able to fully compete to provide the electricity system's short, medium and longer term needs;
- coordinating closely with network operators, to ensure there is seamless integration between ESO and distribution level flexibility markets, as well as a consistent, whole system approach to operations and planning;
- shaping proactively the evolution of the energy system, by providing trusted analysis and recommendations that ensure decisions are taken that optimise outcomes for consumers, across transmission and distribution networks.

1.8 We also expect the ESO to take on expanded roles during RIIO-2. As set out in the Core Document, the ESO is currently developing an Early Competition Plan (ECP) which will recommend options for the introduction of early competition in transmission networks. As highlighted in our decarbonisation programme action plan[3], we are also exploring options for a more coordinated offshore transmission system and have asked the ESO to take forward an options assessment in this area. Work in both areas could potentially expand the ESO's future

[2] ESO RIIO-2 ambition: https://www.nationalgrideso.com/document/141256/download
[3] Ofgem decarbonisation action plan: https://www.ofgem.gov.uk/system/files/docs/2020/02/ofg1190_decarbonisation_action_plan_revised.pdf

responsibilities. As these potential responsibilities are defined, we will ensure these are integrated within the price control arrangements, by setting clear obligations, expectations and incentives associated with their successful delivery.

1.9 We believe the ESO has set out some ambitious aims in its RIIO-2 Business Plan, which have evident support from many of its stakeholders. The ESO's aims are particularly strong in its operational role and work to reform balancing markets. We would like to see the same strength of aims in other parts of its markets role and in its longer term network development role. We are challenging the ESO to set a more definitive and ambitious RIIO-2 plan to optimise network development across the whole system, ensuring it consistently considers all types of solutions to all network needs, as part of a co-optimised assessment process.

1.10 Where the ESO needs to go a lot further is being clearer about how its shorter-term, two-year plans will make sufficient progress against its RIIO-2 aims. We want to strongly incentivise the ESO to deliver its aims. The more definition and ex-ante clarity the ESO can build into its plans, the more predictability there will be in our assessments of the ESO's performance against our expectations. We will work with the ESO between now and Final Determinations to achieve this.

1.11 We believe the ESO can deliver its first Business Plan with operating costs around 10% lower than requested. There are some instances where additional shared costs allocated to the ESO by National Grid have not been well justified, and we propose a 12% reduction to these costs.

1.12 A critical part of the ESO achieving its vision is the development of new IT. While the ESO has set out strong objectives for its IT programme, and explained the need for the individual projects, the solutions and associated costs are very uncertain. We are pushing the ESO to further scope out some of its IT deliverables before we can provide a robust, ex-ante view on costs, while also ensuring our arrangements do not prevent the ESO from making progress with these projects. We also think it is vital that the ESO has both IT capability and sufficient control of its IT delivery. We're asking the ESO to provide a plan to address concerns we have with the ESO's current reliance on National Grid Group for IT.

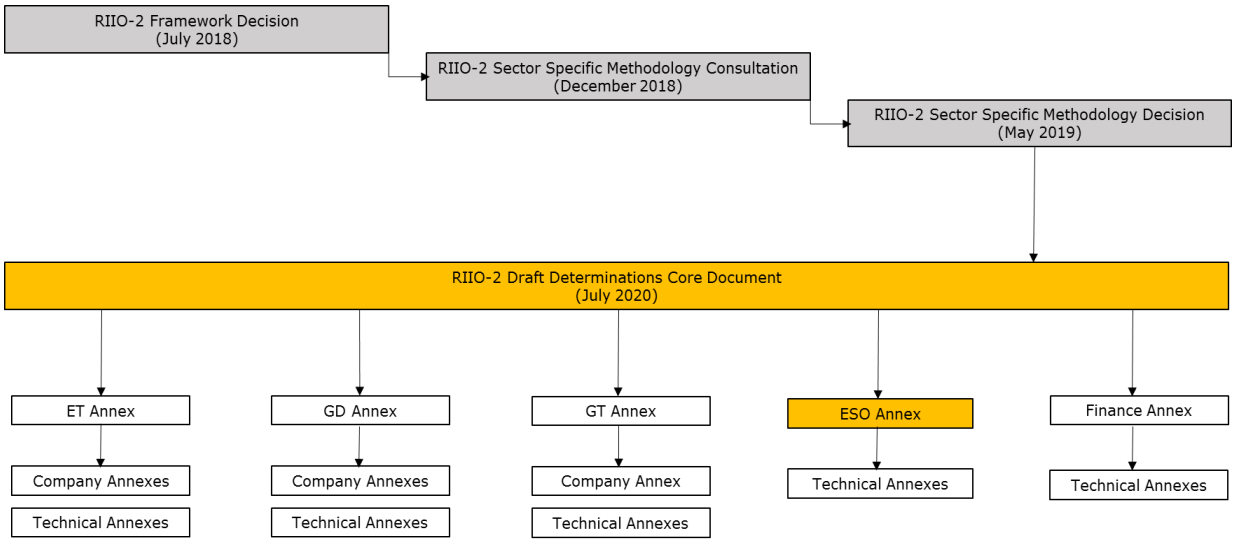
1.13 Finally, we consider that the ESO's requested financial returns are disproportionally high relative to its risks. We have proposed a funding and financing arrangement which we consider allow the ESO to efficiently finance its activities, deliver its vision and that presents value for money to consumers.

Navigating the Draft Determinations

1.14 This document should be read alongside

- The RIIO-2 Draft Determinations Core Document (the Core Document) which contains our approach to areas of RIIO-2 that are common to all sectors;
- The RIIO-2 Draft Determinations Finance Annex (Finance Annex), which sets several cross-cutting proposals relevant to the ESO;
- The technical annexes relevant to the ESO (these will be cross-referenced where relevant).

Figure 1 - RIIO-2 Draft Determinations documents map



1.15 For the ESO, we also published two further methodology documents in August 2019 and October 2019, setting our decisions on the ESO's funding model, the methodology we would use to determine financial parameters and its three roles for RIIO-2.[4] We refer to these as the August 2019 Document and October 2019 Document.

[4] Please see: https://www.ofgem.gov.uk/publications-and-updates/riio-2-financial-methodology-and-roles-framework-electricity-system-operator

An overview of the ESO's RIIO-2 price control

1.16 This document sets out our consultation positions on the key aspects of the ESO's RIIO-2 price control that were not included previously in our 2019 decisions. Some proposals apply to the whole five year RIIO-2 period, while others only apply to the ESO's first Business Plan from 1 April 2021 to 31 March 2023 (BP1). We indicate this throughout the document.

1.17 Table 1 outlines the key features of the ESO's RIIO-2 incentive framework. We propose to keep the same broad structure for incentives as for RIIO-1, but with additions to its scope and a number of targeted changes to ensure it works as effectively as possible. We propose an asymmetric upside incentive value, recognising the need to ensure the ESO has a strong incentive to drive greater consumer outcomes whilst exposing it to a level of downside risk that is appropriate to its size.

Table 1: ESO RIIO-2 incentives framework

Area	Proposals	Applicable timeframe
Scheme scope	All ESO roles, incorporating Electricity Market Reform (EMR) performance and system restoration costs.	RIIO-2
Scheme design	Evaluative framework based on ESO's performance delivering the Business Plan. Changes from RIIO-1 scheme to reinforce performance expectations, align with Business Plan period, and update the evaluation criteria.	RIIO-2
Scheme value	£15 to -£6m (per year)	RIIO-2

1.18 We propose a new suite of outputs for the ESO in response to our review of its Business Plan proposals, as outlined in Table 2. Further details on these are contained in Chapter 3.

Table 2: ESO RIIO-2 outputs

Area	Proposals	Applicable timeframe
Licence obligations	Update the licence to include minimum standards associated with the ESO's RIIO-2 Business Plan activities.	Ongoing
Roles Framework	Update guidance to more closely align with the ESO's Business Plan activities. Also set out how the ESO can 'exceed' expectations for each activity so it has clarity on the additional outputs it should deliver where its plans fall	RIIO-2

Area	Proposals	Applicable timeframe
	short. The Roles Framework will be updated if necessary, to reflect significant developments in the ESO's areas of activity.	
Price control deliverables and grading	We have graded the ESO's Delivery Schedule to provide targeted feedback on where it could improve. We expect the ESO to respond to this feedback and publish an updated Delivery Schedule prior to Final Determinations. We will then perform and publish a final Delivery Schedule grading.	BP1
Performance measures	We propose a suite of measures, including performance metrics (including on balancing costs, forecasting, security of supply, outage management and competitive procurement); stakeholder satisfaction surveys for each ESO Role; and a number of other areas for regularly reported evidence.	BP1

1.19 A summary of our proposed position for the ESO's costs is presented in Table 3. This is our view of efficient costs that we will include in an incentive cost benchmark for BP1. Some costs, particularly IT investments, are highly uncertain at this stage and we propose to reconsider these at a future date. For further details, please refer to Chapter 4 of this document.

Table 3: Proposed ESO costs

Cost category	ESO requests (£m)	Ofgem Cost benchmark (£m)	Reductions (£m)	Costs for future consideration (£m)	Applicable timeframe
ESO opex	150.4	135.6	14.8	-	BP1
Capex	169.0	94.1	3.9	71.0	
Business Support Costs	160.7	128.6	15.4	16.7	
Other price control costs	33.8	15.9	-	17.8	
Total	**513.9**	**374.2**	**34.1**	**105.5**	

1.20 Table 4 summarises the financing arrangements that we are proposing to apply to the ESO. This document sets out our positions on its allowed return on capital, proposals for additional funding (including funding for its revenue collection role) and our financeability assessment. Please refer to the Finance Annex for more detail on other finance issues relevant to the ESO.

Table 4: Proposed ESO financing arrangements

Finance Area	Proposal / assessment	Applicable timeframe	Location
Allowed return on capital	Forecast to be 2.35% over RIIO-2	RIIO-2	This document
Allowance for debt financing of RAV	Debt allowances to reflect shorter term debt measures which we forecast to be -0.05% on average over the 5-year period of RIIO-2.	RIIO-2	This document
Allowance for equity financing of RAV	Equity allowances to reflect the ESO's risk profile and framework which we forecast to be 5.28% on average over the 5-year period of RIIO-2	RIIO-2	This document
Additional funding	£1.9m (nominal prices) in light of ESO's claims and our assessment	RIIO-2	This document
Revenue collection			This document
Financeability	We find that a notional ESO can finance its licenced activities, and propose a 55% notional gearing level	RIIO-2	This document
Other finance issues	ESO-specific 7-year period for depreciation and capitalisation rates that reflect opex and capex expenditure. Most other issues consistent with approach taken for networks.	Mostly RIIO-2, some BP1	Table 30 and Finance Annex

1.21 Table 5 sets out our NIA proposals for the ESO. Our general approach to innovation and the NIA is set out in the Core Document. Further details on the ESO's NIA can be found in Chapter 6 of this document.

Table 5: Proposed ESO NIA

Network Innovation Allowance	Proposals	Applicable timeframe
Level of NIA funding	£7.2m for 2021/22-2022/23, conditional on an improved industry-led reporting framework. ESO-led NIA projects must also involve partnership with other network companies, third party innovators and/or academics.	BP1

1.22 The remaining chapters set out our proposals on uncertainty (Chapter 7), and other issues such as the governance of ESO IT, cost recovery, regulatory reporting, and timings for the next Business Plan (Chapter 8).

Next steps and further work with stakeholders

1.23 The next steps and future engagement for the RIIO-2 price control are set out in our Core Document.

1.24 In Autumn we will informally consult on the detailed implementation of the policy set out in our Draft Determinations. As discussed in this document, for the ESO, this includes consulting on detailed changes to:

- The ESO's licence;
- The ESO Roles Framework guidance (which set out our expectations for the ESO under its licence obligations and incentives).
- The ESO Reporting and Incentives (ESORI) Arrangements Guidance document (which contains detailed guidance on the incentive process for the ESO).

1.25 As also discussed in this document, in addition to any consultation response, we are asking the ESO to submit the following documents by 9 October to aid our Final Determinations later this year:

- A revised two-year delivery plan (Delivery Schedule) that we will use to inform a final plan grading for use in the ESO's incentives.
- A plan for how the ESO could take on full independent control of its IT by April 2023, and if identified, any alternatives solutions the ESO considers would address concerns and be materially more beneficial for consumers.

2. Incentives framework

Introduction

2.1 This chapter sets out our proposals for the ESO's incentives framework for the RIIO-2 period. First, we summarise how the approach we take to the ESO's incentives is different from the approach for other RIIO-2 companies, before setting out proposals on incentive scheme scope, design and value. These proposals build on the updates we provided in our October 2019 Document and the feedback we received from stakeholders.

2.2 A summary of our positions is in Table 6. These proposals apply for the whole RIIO-2 period. Throughout this chapter, and the next, we refer to a number of different components and documents used to define the ESO's outputs and incentives framework. For reference, these are listed and defined in Appendix 6.

Table 6: Key incentive framework features

Area	Proposals	Applicable timeframe
Scheme scope	All ESO activities, incorporating EMR performance and system restoration costs.	RIIO-2
Scheme design	Evaluative framework based on ESO's performance delivering the Business Plan. Changes from RIIO-1 scheme to reinforce performance expectations, align with Business Plan period, and update the evaluation criteria.	RIIO-2
Scheme value	£15 to -£6m (per year)	RIIO-2

Sector specific approach to ESO incentives

2.3 In Chapter 4 and 5 of our Core Document, we describe our approach to setting outputs and incentives for RIIO-2 network companies. The approach we use for the ESO is different. In our May SSMD, we set out our decision to continue with the ESO-specific performance framework we introduced for the last three years of RIIO-1.

2.4 For the ESO we currently use an overarching performance scheme instead of multiple, discrete Output Driven Incentives (ODIs). This scheme is designed to drive strong performance across three ESO roles: control room operations; market

development and transactions; and system insight, planning and network development. The only outputs which are not covered by this scheme during RIIO-1 are Electricity Market Reform (EMR), where we use a separate package of incentives, and system restoration costs, where we apply a cost disallowance mechanism.

2.5 The framework uses an evaluative approach. This means we set up front expectations, criteria and performance measures, and then make a final decision on incentives at the end of the incentive scheme period. This evaluation is based on an ongoing assessment of the ESO's performance, drawing input from stakeholders and an external performance panel. The approach recognises that given the ESO's unique and central role in the energy system, strong performance is best assessed by a wider range of measures than the achievement of numeric targets. We believe this approach is better suited to driving the proactive, flexible and collaborative behaviours we need from the ESO to meet NetZero.

Scheme scope

2.6 We propose two changes to the scope of outputs considered under our incentive scheme for RIIO-2: EMR Delivery Body (DB) performance and restoration costs. This would bring the regulation of all ESO outputs under one consistent approach.

EMR

Background

2.7 In August 2014, the ESO was appointed as the EMR DB[5]. The current EMR DB regulatory regime, which covers its revenues, outputs and incentives was introduced within RIIO-1 and applies to the period from April 2016 to March 2021. Our regulation of the EMR DB is separate from the ESO incentive scheme we introduced in April 2018. The separation of the ESO from NGET, and the start of a new price control, provides the opportunity for the integration of the EMR framework within the wider ESO framework from April 2021.

[5] Between August 2014 and March 2019, the EMR DB role was undertaken by NGET but was transferred to the ESO as part of its separation from NGET. To avoid confusion, we use ESO throughout this section, including when discussing obligations originally imposed on NGET.

2.8 In our Five Year Review of the Capacity Market Rules – First Policy Consultation (First Policy Consultation), published in April 2019, we asked stakeholders whether they agreed with aligning the EMR DB incentive framework with the wider ESO regulatory framework.[6] Following our review of responses, in our May SSMD, we highlighted our indicative position that the EMR incentives may be more effective if merged into the wider incentives process.

2.9 Upon establishing the ESO's role as the EMR DB, we introduced business separation and a ring fence between ESO and the EMR DB to mitigate conflicts of interest. The practical implications of this ring-fence included an administrative and physical separation of staff, restrictions to the flow of data and information; the establishment of a data handling team for Confidential EMR Information purposes; and a compliance code and non-disclosure agreements for staff. As discussed in our Five Year Review report[7], the legal separation of the ESO from NGET may enable a review of the current ring-fence arrangement.

Consultation position

2.10 We propose to integrate the EMR DB incentives within the wider ESO RIIO-2 incentives framework.

2.11 We propose to maintain the exiting ring fence, but will keep these arrangements under review.

Rationale for consultation position

2.12 In our First Policy Consultation, we reiterated our view that there are synergies in the ESO taking on the EMR role relative to any other body, deriving the expertise, experience and information it holds as a result of its existing role in the energy market. The regulatory regime in place for the ESO in relation to EMR should drive two main objectives: increased liquidity in EMR auctions and lower the burden on participants in both prequalification and the delivery processes.

2.13 We believe that integration of the EMR DB within the wider framework should allow the ESO to further take advantage of the synergies and should improve the focus on the EMR DB function, thereby improving delivery against the above objectives. Additionally, the ESO's Business Plan, including its proposed costs and

[6] See: Five Year Review of the Capacity Market Rules – First Policy Consultation
[7] See: https://www.ofgem.gov.uk/publications-and-updates/report-our-five-year-review-capacity-market-rules-and-forward-work-plan

outputs, has been produced with stakeholders with EMR included as part of a holistic set of proposals.

2.14 We have received broadly positive feedback from industry on integrating EMR within the wider ESO framework. However, we note the small number of reservations, with some stakeholders stating the importance of the ESO having clear accountability for its EMR performance. We agree that ESO should retain focus and accountability for its EMR activity. This can be achieved by having specific expectations, deliverables and performance measures related to the EMR functions within RIIO-2, as set out throughout Chapter 3.

2.15 The separation of the ESO from NGET mitigates some of the original conflicts of interest of the EMR Delivery Body role that resulted in a distinction between the EMR DB and wider ESO function. At present we have not seen an evidence-based case for the removal of the ring fence, nor have we had strong stakeholder feedback that this is a necessary change. We are minded to maintain this ring-fence but intend to keep the arrangements under review. We welcome views from both the ESO and stakeholders on this point.

Incentives framework consultation questions

ESOQ1. Do you agree with our proposal to incorporate EMR into the ESO's wider outputs incentives scheme?

ESOQ2. Do you agree that it is appropriate to maintain the ring-fence between the EMR DB and the ESO in its current form?

System restoration

Background

2.16 The ESO procures services to restore the electricity system, in the unlikely event of blackout (known as Black Start services). The ESO is currently required to produce a methodology for the procurement of restoration services and is subject to an annual efficiency check on its expenditure. We can currently disallow up to 10% of Black Start costs where the ESO does not follow the Black Start methodology. As a result, Black Start costs are not included in our incentives scheme, although other aspects of the ESO's performance in this area are.

2.17 In our May SSMD we stated our intention to retain the Black Start efficiency check. We felt it was important to retain a specific incentive to drive the right long-term outcomes for consumer protection in this aspect of system security.

Consultation position

2.18 We propose removing the disallowance mechanism for Black Start costs but retaining the other aspects of this process, including the requirement to produce a robust Black Start strategy and methodology. The ESO's performance on system restoration policy would be considered through the incentives scheme, with Black Start costs included in an overall balancing costs metric. The ESO's adherence to the Black Start methodology, and the quality of its strategy, would be considered as part of the incentives process.

Rationale for consultation position

2.19 The efficiency check was introduced as part of a package of measures to improve the ESO's approach to Black Start procurement following a sharp uplift in costs in 2016/17. We believe this policy has worked well and the ESO has acted to address some of the root causes of the issues at the time. As a result, we do not believe the distinct Black Start disallowance process continues to be needed.

2.20 By including all external balancing costs in the incentive scheme we treat all these costs consistently. This will remove the risk of inconsistent incentives that could distort the ESO's approach to procuring and managing balancing and operational services.

2.21 Finally, as the ESO will have its own price control for RIIO-2, our power to disallow up to 10% of Black Start costs is a more material consideration in the ESO's overall financeability than when it shared a price control with NGET.

Incentives framework consultation questions

ESOQ3. Do you agree we should regulate system restoration costs in a consistent manner to other external balancing costs?

Scheme design

2.22 The existing ESO incentives scheme runs on an annual basis. The ESO engages with its stakeholders to produce a plan before the start of each year which includes deliverables and performance metrics for its three roles. The ESO publishes a draft plan to give stakeholders, an external performance panel and Ofgem the opportunity to feedback on the proposed deliverables and performance metrics before publishing a final plan. The ESO then reports on its progress against these deliverables and performance metrics throughout the year, receiving feedback from stakeholders, ourselves and the performance panel mid-way through the year. At the end of the year, the panel performs a final evaluation against pre-defined evaluation criteria, producing scores from 1 to 5 for each role. These scores set a default recommended payment or penalty for each role and have an associated financial range. We then assess the panel's recommendations, as well as any further evidence submitted, to determine the final payment and penalty with the range.

2.23 Below we set out our proposed changes for RIIO-2. Through developing these proposals, we have listened to feedback from the ESO and the ESO RIIO-2 Stakeholder Group (ERSG) on how the scheme could evolve.

2.24 Unlike for other areas of the price control, we did not ask for proposals from the ESO on incentive design or value as part of the Business Plan. We have instead set out the views the ESO has provided to us in consultation responses and through our ongoing engagement.

Setting performance expectations

Background

2.25 For the incentives to work effectively, it is important there is shared clarity on what constitutes baseline expectations. This is in turn heavily linked to a shared view on the strength and ambition of the ESO's plans. In the 2018/19 to 2020/21 incentives years, the ESO set the final details for its deliverables and performance metrics following consultation. We subsequently provided our final views on the ambition of the ESO's plans in a formal opinion.

2.26 For the first Business Plan period 2021-23, we noted in October that the formal opinion process would be superseded by the RIIO-2 determinations. We said we

would explore how to ensure our conclusions during the determinations provide a focussed steer on the relative quality of the different parts of the Business Plan, to reinforce predictability around incentives for the ESO.

2.27 In August, we also noted that we did not think the ESO has consistently developed sufficiently justified, well-specified or sufficiently stretching performance metrics. We therefore suggested that Ofgem could set the final 2021/23 metrics in key areas. In October, we confirmed that we would determine whether or not there is a need for Ofgem to prescribe the design of the final performance metrics through the price control determinations process.

2.28 Following the ESO's Business Plan submission, the ESO has provided suggestions for the scheme design in this area, including:

- A clear scorecard - to provide a shared understanding for all stakeholders of baseline performance expectations
- A draft Business Plan consultation – Ofgem and the performance panel rate ambition of draft plan, and highlight where more work is required
- A calibration process – if the final plan is suitably ambitious, on-track delivery should result in positive incentive reward

Consultation position

2.29 We propose two key changes to the current incentives process to help reinforce performance expectations during RIIO-2:

- We will grade the ESO's two-year Delivery Schedule to more clearly indicate the link between on track plan delivery and incentive reward. Where we consider the Delivery Schedule is not sufficiently ambitious, we will highlight how it needs to improve between Draft Determinations and Final Determinations, where will set out our final grading.
- We will set all performance measures (including performance metrics, stakeholder satisfaction surveys and other reported evidence). We will also set the performance benchmarks for above, meets and below expectations.

2.30 The ESO Performance Panel will also aid us in grading the ESO's Delivery Schedule and reviewing performance measures. For BP1, we expect to convene the panel this summer, prior to the Final Determinations.

2.31 We will also update the existing Roles Framework, taking into account the ESO's suggestions around scorecards. Our draft plan grading, changes to the Roles Framework and proposals for performance measures are set out in Chapter 3.

Rationale for consultation position

2.32 A focussed grading of the ESO's Delivery Schedule will set a clear reference point which will align expectations about the link between plan delivery and incentive performance. It also helps to mitigate perverse incentives on the ESO to develop plans that are easy to outperform. Setting all performance measures will remove the potential for misaligned expectations on measures put forward by the ESO.

2.33 These measures are aligned with the suggestions from the ESO and ERSG. In particular, we agree that on-track delivery of an ambitious plan deserves positive reward. The new proposed plan grading approach will create clarity about what we consider is and isn't ambitious.

Incentives framework consultation questions

ESOQ4. Do you agree with our approach to setting up-front performance expectations?

Scheme length

Background

2.34 In our October 2019 Document, we said that we anticipated moving to a two-year incentive scheme for RIIO-2 to align the length of the incentive scheme with the Business Planning cycle. We said we would further consider the impact of a two-year scheme on revenue recovery.

2.35 The ESO supports a two-year incentive period but considers that payments or penalties should be regularly 'banked' based on its performance over the previous six months.

Consultation position

2.36 The incentive scheme will be aligned with the two-year Business Planning cycle and will run as a two-year scheme. There will not be a need for a separate 'Forward Plan' as the assessment process will relate to the Business Plan.

2.37 We propose that the final incentive decision will cover the entire two-year period (ie revenue will not be banked following certain interim scheme stages).

Rationale for consultation position

2.38 Aligning the incentive scheme and Business Plan period ensures a streamlined process. It also recognises that several activities in the delivery plan are multi-year undertakings, and the overall standard of delivery is likely to be much clearer once these projects are well underway. Under a longer incentive assessment cycle, any initial poor performance in delivering the Business Plan in the first half of the period can be redeemed through strong performance in the second half (and vice versa). We do not consider revenue should be banked, as this would in effect split the scheme into multiple schemes and rewards/penalties may not match the ESO's overall performance delivering its Business Plan.

2.39 We do not consider a two-year scheme will create any financing concerns. We expect the ESO to be able to forecast its performance to a reasonable degree of accuracy given our proposed scheme changes. If larger deviations were to occur between expected and actual performance, our financing proposals mean the ESO has adequate access to credit facilities to manage these deviations.

Incentives framework consultation questions

ESOQ5. Do you agree that a financial reward or penalty should be determined every two-years, to align with the period over which we set expectations, costs and outputs?

Within scheme feedback and panel timings

Background

2.40 The ESO Performance Panel is a vital part of our effort to factor in more stakeholder and external perspectives into ESO regulation. The panel plays a key role in our current incentives framework. It helps to define the ESO's priorities at the start of the year, challenges its performance throughout the year, and makes recommendations which guide our incentive decisions. It is currently composed of a mix of independent experts and industry trade associations.

2.41 In October, we confirmed we would not make any major changes to the structure or make-up of the panel, and proposed maintaining an Ofgem chair in the short

term. We proposed it would meet three times in the scheme period to comment on the ambition and cost efficiency of the Business Plan; provide feedback at the mid-period stage; and perform a performance evaluation at the end of the two-year Business Plan period.

2.42 Stakeholders were generally supportive of these measures. However, they noted we should be aware of a potential increase in administrative burden for the panel if we expanded its role. The ESO considered that six-monthly reviews should be retained to provide it with the ability to course-correct more regularly. It also believed one consensual score rather than a range of scores should be provided by the Performance Panel.

Consultation position

2.43 Our proposals on the role and structure of the panel, and the key scheme stages, remain broadly consistent with our positions in our October 2019 Document. The key change is that we propose that the performance panel will provide the ESO with feedback on its performance at six-monthly intervals in the Business Plan cycle (rather than just after 1 year).

2.44 We propose that the six-month review process will be a streamlined and shorter version of the mid-period evaluation. It will involve targeted feedback from the panel, rather than a full evaluation and scoring process. We expect this review will focus on any changes to plans from the original, the justifications provided for performance against metrics, and the rationale for significant expected cost deviations. We will not issue a call for evidence or hold a stakeholder event every 6-months, but will continue to engage widely with stakeholders throughout the scheme.

2.45 In summary, for each Business Plan cycle, we propose the Performance Panel would convene at the stages outlined in Table 7.

Table 7: Performance Panel timings

Timing	Output
Prior to the scheme start	Business Plan review: comment on the quality, ambition and value for money of the two-year Business Plan proposals.[8]

[8] For the first Business Plan cycle (2021-2023) this task has been being carried out by the 'RIIO-2 Challenge Panel' and ESO RIIO-2 Stakeholder Group. Instead, we plan to give the panel a role of reviewing our Draft Determinations on deliverables and metrics.

After 6 months	Feedback session: provide targeted feedback on the ESO's performance to date, focussing particularly on any actions the ESO has taken in response to comments at the start of the scheme and what the ESO must do better to score highly at the mid-period evaluation.
After 12 months	Mid-period evaluation report: the panel would perform a full evaluation and provide scores of the ESO's performance mid-way through the Business Planning cycle. This should include views on what the ESO needs to do to improve scores.
After 18 months	Feedback session: provide targeted feedback on the ESO's performance to date, focussing particularly on any actions the ESO has taken in response to feedback after 12 months of the scheme and what the ESO must do better to score highly at the end of scheme evaluation.
At the end of the scheme	End of year evaluation report: assess the performance of the ESO and provide scores for each role.

2.46 We propose that the Performance Panel's mid-scheme and end of scheme reports will present one score for each Role. This would be the majority score given by panel members. Any differences between panel member's views will be reflected in the commentary of the panel's reports, and taken into account in our incentive decisions.

Rationale for consultation position

2.47 We believe these proposals strike the right balance between providing clear feedback and not creating undue administrative burden. Our proposals elsewhere should lead to less focus on new evidence provided by the ESO throughout the year, and more focus on assessing how the ESO's performance is tracking against elements defined ex ante and whether its justifications are credible. Our proposals elsewhere should lead to less focus on new, additional evidence provided by the ESO throughout the year, and more focus on assessing how the ESO's performance is tracking against elements defined ex ante and whether its justifications are credible. This should help ensure the panel's role is not unduly complex or burdensome.

2.48 We agree that the ESO should be provided with regular feedback on its performance throughout the Business Plan cycle, which is why we propose to hold six-monthly panel sessions. This will enable it to course correct prior to the mid-period and end of scheme evaluations. To strike the right balance between providing a regular steer and avoiding excessive burden, we believe this is best provided through targeted feedback than a full scoring process every six months.

Our experience to date is the evaluation process and associated events can take significant time and resource. This approach would also enable the panel feedback to be provided more quickly, providing the ESO with more ability to respond. Finally, it would mean the ESO does not need to provide the detailed reporting expected at the mid-period and end of period stages, every 6 months. This should reduce burden on the ESO and provide more time for the production of other important documents, such as its future Business Plans.

2.49 We also agree that when the panel scores the ESO's performance, one score, rather than a range, should be given. This will provide the ESO with more predictability around its performance and the associated range of financial reward or penalty. We think single scores combined with clear narrative on the panel's reasoning and areas where views differ will provide predictability on performance.

Incentives framework consultation questions

ESOQ6. Do you agree with our proposed approach to within-scheme feedback, including the timings and approach to performance panel sessions?

Evaluation criteria

Background

2.50 The ESO's scores for each of its three roles are currently determined by the performance panel's evaluation against four criteria: evidence of benefits, stakeholder evidence, plan delivery and outturn performance metrics.

2.51 In our August 2019 and October 2019 Documents, we set out our initial thinking on potential adjustments to the evaluation criteria in order to target and streamline the evaluation process and ensure it worked effectively with the new price control. We considered whether tailoring the evaluation criteria to the different roles could further strengthen predictability. We also set out our intention to review whether 'evidence of benefits' was a useful criterion for RIIO-2, noting that this could alternatively just be demonstrated via plan delivery, stakeholder satisfaction and performance against performance metrics.

2.52 Through our discussions with the ESO and ERSG on incentive design, the following points have been raised:

- The scoring needs to reflect the 'controllability' of outcomes by the ESO

- There should be a blended mix of evaluative and formulaic assessment

Consultation position

2.53 We propose to continue to score the ESO from 1-5 for each role. We will adapt our existing incentive guidance to ensure the link between the scoring and performance against the criteria is as clear as possible. Our current thinking on this adapted guidance is in Table 8.

Table 8: Guidance on determining 1-5 scores for each Role

Role score	1	2	3	4	5
Guidance	Did not meet any criteria	Mostly did not meet the criteria	Met at least the majority of criteria but did not exceed against many	Mostly exceeded the criteria	Exceeded all criteria

2.54 We propose five evaluation criteria for RIIO-2 for Roles 1 and 2, and four for Role 3. This includes:

- the addition of a new Value for Money criterion for all Roles, explained in Chapter 4.
- the removal of the performance metrics criterion for Role 3, as we do not believe suitable, robustly benchmarked performance metrics can be set for this role.

2.55 Table 9 highlights our current thinking on the updated guidance for this evaluation criteria. This is best read alongside our proposals for outputs, summarised at the end of Chapter 3.

Table 9: Guidance on evaluation criteria

Criterion	Description	Below	Meets	Exceeds
a) Plan delivery	Measures whether the ESO has delivered its Delivery Schedule on time. Exceptions made where the ESO can clearly explain why a plan deviation was in consumer's interest	<3 graded Delivery Schedule And ESO does not produce outputs that	On track to deliver the key components of a 3-graded Delivery Schedule *Or*	On track to deliver the key components of a 4 or 5-graded Delivery Schedule *Or*

Criterion	Description	Below	Meets	Exceeds
	or outside of its control. Where the ESO has not produced an 'exceeding' role Delivery Schedule, this also measures whether it has demonstrated actions to meet our guidance for exceeding expectations.	demonstrate the meets expectations guidance in our ESO Roles framework	ESO produces outputs that demonstrate the meets expectations guidance in our ESO Roles framework	ESO produces outputs that demonstrate most/all of the exceeds expectations guidance in our ESO Roles framework
b) Metric performance	Measures how the ESO has performed against its performance metrics, taking into account the ESO's explanations	Below expectations for most metrics with no strong mitigating reasons	In line with expectations for most metrics with clear supporting reasons	Exceeds expectations for most metrics with clear supporting reasons
c) Stakeholder evidence	Measures stakeholder satisfaction on the quality of the ESO's plan delivery.	Below benchmark for role satisfaction survey Mostly negative stakeholder feedback, no strong justifications for poor feedback	Within benchmark for role satisfaction survey Mixed stakeholder feedback, some justification for poor feedback	Exceeds benchmark for role satisfaction survey Mostly positive stakeholder feedback, strong justifications for poor feedback
d) Demonstration of plan benefits	Measures the benefits the ESO has achieved from its Business Plan, considering the ESO's original benefits case and the quality of the outcomes and outputs delivered through the plan. Also considers whether the ESO adapts when needed in order to maximise plan benefits.	Reported evidence does not support the realisation of the Business Plan's benefits. ESO does not identify changes or course correct when needed.	Reported evidence on realisation of benefits is strong in some places but weak in others. ESO identifies the most significant changes and course corrects when needed.	Reported evidence strongly supports the realisation of plan's benefits in most areas ESO quickly and proactively identifies changes and course-corrects when need.
e) Value for money	Discussed in Chapter 4.			

2.56 We intend to further discuss the detailed implementation and drafting of our evaluation criteria guidance with stakeholders as we update our ESORI Arrangements guidance document, alongside our informal licence change consultation later this year.

Rationale for consultation position

2.57 We consider these criteria capture all the key relevant considerations for measuring the ESO's performance during RIIO-2. We continue to see plan delivery, stakeholder satisfaction and performance metrics as relevant and important criteria for the reasons set out in our October 2019 document.

2.58 Our proposal not to include a performance metric criterion for Role 3, reflects the difficulty in setting robust performance metrics for this role, given its longer-term focus (as discussed further in Chapter 3). This will tailor the Role 3 assessment to place more emphasis on the most relevant performance considerations, streamlining the evaluation.

2.59 Upon review, we propose to maintain a demonstration of benefits criterion for all roles. This is because there are important aspects of performance that cannot be captured through the other criteria. In particular, the overall quality of the delivery of the Business Plan cannot be specified up front, and in some areas cannot be measured well through performance metrics or stakeholder satisfaction. We think the potential for overlap we identified previously can be managed by making this criterion more focussed and linked to the RIIO-2 Business Plan, as well as by setting out more specifically the areas where reported evidence is valuable (discussed further in Chapter 3).

2.60 On controllability of outcomes, we recognise there is significant influence from external factors in a lot the important outcomes the ESO can influence. This is one of the reasons for taking an evaluative approach, as it allows the consideration of multiple factors in reaching conclusions on performance.

2.61 We do not believe the reintroduction of formulaic incentives (where incentive payment and penalties are mechanistically linked to performance against numerical targets) is compatible with the evaluative approach. Areas which are more suitable for formulaic incentives (those with a high degree of controllability) tend to be more discrete, short-term outputs. Creating formulaic incentives for just a few discrete areas would distort the overall focus of the incentive scheme

away from outcomes that matter most to consumers. Alternatively, if we were to make all performance metrics mechanistic, then this would lead to payments and penalties which are uncorrelated with the ESO's performance. For example, if balancing costs were higher than expected for reasons clearly outside of its control, the ESO would be unfairly penalised.

2.62 Our rationale for including a value for money criterion is discussed in the "Approach to cost regulation" section in Chapter 4.

Incentives framework consultation questions

ESOQ7. Do you agree with our proposed evaluation criteria for RIIO-2?

Scheme value

Background

2.63 The total value of the ESO's output incentives scheme is an important component in the overall price control framework. It has a relatively greater weight in the ESO price control than for other sectors given the lack of a totex incentive.

2.64 The ESO's current maximum incentive reward/penalty is ±£30m per year. This is split equally among each of the three roles (±£10m per role).

2.65 We determine a final overall level of payment or penalty for the ESO within this range using the payment/penalty methodology set out in our ESORI Arrangements guidance document. Under this methodology, there is a linear relationship between the ESO's final scores for each role and its corresponding payment or penalty. Each score has a default value and an associated range. A score of 5 earns a default of 80% of the pot (with a range of 60-100%), a score of 4 earns a default of 40% of the pot (with a range of 20-60%), a score of three earns a default of 0% (with a range of -20 to 20%) and so on. We can than make adjustments of 10% within each range based on our assessment of the evidence and to reflect factors such as borderline scoring decisions.

2.66 In our sector methodology decisions, we noted that:

- the move to a standalone ESO price control could merit changes from past values. Firstly, the maximum incentive upside would need to provide an

appropriate maximum return for the separate, smaller ESO company. Secondly, the maximum incentive downside would have to be considered carefully alongside financing considerations for an asset light company.

- the removal of the totex incentive should provide the ESO with a reasonable expectation that any efficient investments made to improve its service quality will be fully funded. This allows it greater flexibility to make investments in the hope of unlocking incentive rewards.
- there could be a case for including relatively more upside than downside for the incentives on medium-term and longer-term roles. We asked whether relatively more upside focus could mitigate the risk of the ESO not stretching itself in more novel areas due to loss aversion bias.

2.67 The ESO has not expressed a view on the appropriate incentives value in its Business Plan. While stakeholders have also not expressed a view on the value, they have generally argued for keeping some form of downside on the ESO, rather than introducing an upside-only scheme.

Consultation position

2.68 We propose a total two-year scheme value of £30m upside and £12m downside (£15m to -£6m on an annual basis). This value would be nominal and fixed. The proposal would apply to the whole RIIO-2 period (subject to any future decisions to alter the length of Business Plans).

2.69 We propose to split this value evenly by role.

Table 10: Total scheme upside and downside

Parameter	Two-year scheme value £m	Annual RoRE [9]
Max upside	30	16%
Max downside	-12	1%

Table 11: Allocation of incentive value per role

Role allocation	Role 1	Role 2	Role 3
Allocation	1/3	1/3	1/3
Max scheme upside (£m)	10	10	10
Max scheme downside (£m)	-4	-4	-4

[9] Based on +£15m and -£6m annual values, including forecast returns on capital

2.70 We propose that the methodology for determining and payment and penalty will remain broadly the same, but with changes so that the grading of the ESO's Delivery Schedule is a factor that is considered more explicitly as part of the final incentives decision.

Rationale for consultation position

2.71 We propose to retain a downside penalty as we recognise that this is an effective tool for driving performance and that stakeholders were broadly supportive of this. We are proposing the maximum incentive downside is broadly equivalent to the ESO's return on equity. Our reasoning for this is that that our incentive decisions should not prevent the ESO from receiving its cost of debt. We are proposing a fixed, nominal figure based on average returns over the course of the five-year price control, using the ESO's projected RAV. The downside is slightly below the average cost of debt to reflect uncertainty about the ESO's actual capex expenditure, as well as the outturn cost of debt over this period. On the evidence before us, we believe annual downside values greater than £6m could have a disproportionate impact on ESO financing given the size of its Regulatory Asset Value (RAV).

2.72 The ESO can deliver substantial consumer benefit through its actions. It is important to have an upside incentive value that is sufficient to motivate excellent performance. Our main rationale for setting a greater upside than downside is that we do not believe £6m would be a large enough upside incentive to encourage the ESO to put a strong emphasis on its output incentives. We consider a value of £15m would provide strong incentives on the ESO to place delivering consumer benefits at the forefront of its decision-making.

2.73 In arriving at this figure we note the relative significance of this to a standalone ESO and what would appear to be an appropriate maximum level of return. When considered in combination with WACC returns, this produces a total Return on Regulatory Equity (RoRE) range of 1%-16% (not including the £1.9m of proposed additional funding). We have considered different levels of upside including values in excess of £15m per year. To increase the upside beyond £15m we would need to see a sufficiently strong case that the potential transfer of value from consumers to the ESO is matched by a material additional incentive on the ESO to perform highly.

2.74 More generally, an asymmetric upside scheme helps ensure the price control provides an overall fair bet to the ESO and offsets the low probability asymmetric downside risks. This recognises that the arrangements are relatively novel and there may be some uncertainty in how they are implemented. This will mean the ESO has more to potentially gain than potentially lose from stretching itself in more novel areas. We consider this is a beneficial incentive to create at this point in time when we need the ESO to be proactive and ambitious.

2.75 Our reasons for continuing with a nominal, fixed incentive value (as was the case in RIIO-1) is to avoid introducing undue complexity. This recognises that while our proposed incentive values have been informed by other financial values, there is not a mechanistic link between them. We consider our proposed values would be suitable across the five-year period.

2.76 We are proposing equal values for each role. This is because we believe each role is important and has considerable benefits associated with it. There is no strong evidence to suggest strong or poor performance in one role is relatively more or less important than another. We also believe that creating unbalanced roles could lead to perverse incentives and unintended consequences, such as distorted resource allocations and spending.

2.77 Overall, we believe our proposals will have a net positive impact on consumers. The potential costs of payments to and/from the ESO will be significantly outweighed by positive changes in the ESO's behaviour which has the potential to impact £billions wider energy system costs (estimated by the ESO to be £2bn over the course of RIIO-2). For example, it would take only a 1.5% annual reduction in balancing costs to outweigh the total incentive upside.

Incentives framework consultation questions

ESOQ8. Do you agree with our proposals on the incentive scheme value?

3. Outputs

Introduction

3.1 This chapter sets out our proposed outputs for the ESO, following our review of its RIIO-2 Business Plan.

3.2 Table 12 sets out the key parts of the framework that define the outputs the ESO should deliver. It also summarises our proposals, including whether they apply to the whole RIIO-2 period or just to the first Business Plan period (BP1). We discuss each aspect in more detail in the sections that follow.

Table 12: ESO outputs

Type of output	Description	Our proposals	Applicable timeframe
Licence obligations	Set the minimum standards the ESO must achieve with its price control funding.	Update the licence to include minimum standards associated with the ESO's RIIO-2 Business Plan activities.	Ongoing
Roles framework guidance	For each of the ESO's three roles, this sets out our expectations for how the ESO should both comply with its obligations and also meet our incentives expectations.	Update guidance to more closely align with ESO's Business Plan activities. Also set out how the ESO can 'exceed' expectations for each activity so the ESO has clarity on the outputs it should deliver where its plans fall short. The Roles framework will be updated if necessary, to reflect significant new developments in the ESO's activities.	RIIO-2
ESO Delivery Schedule	Contains specific details on what the ESO will be accountable to deliver and by when.	We have graded the ESO's Delivery Schedule to provide targeted feedback on where it could improve. We expect the ESO to respond to this feedback and provide an updated Delivery Schedule prior to Final Determinations. We will then perform and publish a final Delivery Schedule grading.	BP1
Performance measures	Key outputs the ESO is required to report on through the price control to inform our assessment of its performance in its incentives.	We propose a suite of measures, including performance metrics (including on balancing costs, forecasting, security of supply, outage management and competitive procurement); stakeholder satisfaction surveys for each ESO Role; and a number of other items as 'Regularly Reported Evidence'.	BP1

Licence obligations

Background

3.3 The ESO has a diverse set of obligations, from specific technical requirements for real time system operation, through to more overarching obligations, such as to develop and maintain an economic, efficient and coordination system, and to facilitate markets and competition. We provide supporting guidance on how certain licence obligations should be met in our ESO Roles Framework.

3.4 In our October methodology decision, we proposed to update the existing licence requirements to ensure our minimum expectations for the ESO are transparently accounted for. In particular, we said we would consider whether Standard Licence Condition (SLC) C16 was the right condition for providing clarity on minimum expectations across the ESO's diverse set of roles. SLC C16's original focus was on the procurement and use of balancing services.

Consultation position

3.5 We propose to amend the ESO's licence to set out licence obligations associated with the delivery of its RIIO-2 Business Plan. To achieve this, we plan to introduce a new condition which would have the purpose of clearly and transparently setting out the expectations of an economic, efficient and coordinated ESO. This condition would not introduce any new responsibilities or requirements on the ESO that are not already expected and within its Business Plan proposals. This would involve the transfer of certain existing conditions from SLC C16 (those under paragraph 1 of SCL C16) into this new condition.

3.6 We propose new additions to this condition to provide further clarity on the ESO's roles creating and delivering competitive markets and planning efficient networks during RIIO-2. In particular, we propose to include obligations related to:

- the ESO's role to proactively promote competition and set strategic direction in code functions;
- coordinating strategy for planning and operation of offshore, onshore and cross-border networks;
- coordinating and cooperating with DNOs and TOs in the best interest of the total system;

- engaging with DNOs and TOs to establish common requirements for balancing and ancillary services, and where appropriate, standardised markets and products;
- the ESO's role to facilitate an efficient transition to a zero carbon energy system.

3.7 As we finalise the licence conditions for Distribution Network Operators (DNOs) and Transmission Owners (TOs) to reflect our expectations for whole electricity systems coordination[10], we propose to include further clarifications that are necessary in the ESO's existing licence requirements to ensure consistency. As set out in Chapter 5 of the Core Document we are also proposing new licence obligations on Modernising Energy Data and will reflect these in the ESO's licence as appropriate.

3.8 Detailed drafting will be set out in full as part of the wider, ongoing RIIO-2 licence modification process. We will consult informally on RIIO-2 licence modifications later this year.

3.9 We note that we may introduce further conditions in the licence within the price control to accommodate new ESO responsibilities. For example, if our assessment of the ESO's early competition plan[11] results in the ESO taking on any new responsibilities in this area, then we would update the licence accordingly.

Rationale for consultation position

3.10 The start of RIIO-2 presents a good opportunity to ensure the ESO's licence is streamlined and aligned with the ESO's Business Plan activities. These additions do not undermine our assessment of the ESO's Business Plan or require additional funding because they will not introduce distinct new activities – instead they will better capture the obligations that underpin the ESO's Business Plan.

3.11 We agree with feedback from several stakeholders that the ESO should have obligations on whole system outcomes that are consistent with those proposed for the DNOs and TOs.

[10] https://www.ofgem.gov.uk/publications-and-updates/statutory-consultation-proposed-whole-electricity-system-licence-condition-d177a-electricity-distributors-and-transmission-owners

[11] https://www.ofgem.gov.uk/system/files/docs/2020/03/update_on_the_esos_early_competition_plan_060320_0.pdf

Outputs consultation questions

ESOQ9. Do you think that our proposals will capture the full scope of minimum obligations/standards associated with the ESO's Business Plan activities?

ESO roles framework

Background

3.12 The ESO Roles Framework guidance[12] document describes and groups the ESO's key activities and sets out our expectations for how these activities should be performed. At present, its purpose is to align expectations between the ESO, Ofgem and stakeholders on what is required from the ESO to meet its licence obligations, as well as deliver baseline performance under its incentives. The roles framework also defines the groupings of activities against which our incentive evaluation process relates to, and therefore presents a structure for the ESO's plans and performance reports.

3.13 In October we decided to streamline our roles framework for the ESO, by moving from four to three roles[13]. This change was implemented immediately for the 2020-21 incentives year. Our three roles for the ESO are:

- Role 1: Control centre operations;
- Role 2: Market development and transactions;
- Role 3: System insight, planning and network development.

Consultation position

3.14 Following our review of the ESO's Business Plan, we propose to update the Roles framework guidance for RIIO-2 to:

- set more focused expectations associated with the ESO's Business Plan activities outlined in Table 13; and
- incorporate expanded guidance on how the ESO can 'exceed' our baseline expectations for each of these activities.

[12] https://www.ofgem.gov.uk/system/files/docs/2020/03/eso_roles_and_principles_guidance_2020-21.pdf
[13] See page 30 of our decision document: https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf

3.15 This will provide further clarity to the ESO on what it needs to deliver within the first business plan period and where the deliverables described in its plan have fallen short of our expectations. It would also provide guidance on what the ESO should achieve with its second business plan period from April 2023.

Table 13: Activities associated with each role

Role	Activity
Role 1: Control centre operations	a) System operation
	b) System restoration
	c) Information, data and forecasting
Role 2: Market development and transactions;	a) Market design
	b) EMR
	c) Industry codes and charging
Role 3: System insight, planning and network development.	a) Connections and network access
	b) Strategy and Insight
	c) Long term network planning

3.16 As is the case currently, we will retain the ability to change the Roles Framework guidance, following consultation, if the ESO's roles or our expectations change within the RIIO-2 period.

3.17 We will consult on our updated ESO Roles Framework guidance alongside our informal licence change consultation later this year.

Rationale for consultation position

3.18 As noted in chapter 2, the ESO has suggested that some form of document or 'scorecard' to clearly set expectations under the incentives scheme would be helpful. We agree with this, and believe this can be supported by expanding the current ESO Roles Framework guidance.

3.19 The expanded Roles Framework will provide a transparent and detailed statement of incentive performance expectations for RIIO2. As discussed in the next section, there are some parts of the ESO's plan that we think could be more ambitious, or where the outcomes are less clearly defined. Setting out guidance on how the ESO can exceed expectations will further help the ESO to develop relevant and ambitious deliverables. This will strengthen the power of the incentives. Setting out these expectations in a structure aligned to the ESO's Business Plan deliverables will ensure this guidance is clear and streamlined.

3.20 Our expectation is that the Roles Framework should provide a stable, consistent set of expectations for the coming years and provide a resource for the ESO to draw on in shaping the current and the next Business Plan. At the same time, we know of some potentially changing or expanded roles for the ESO, and we recognise the rapid pace of change in the sector. For this reason, we do not propose to rule out further refining the Roles Framework during RIIO2.

Outputs consultation questions

ESOQ10. Do you agree with our proposed changes to the ESO Roles Framework guidance?

ESO Delivery Schedule

Background

3.21 In our May SSMD we asked the ESO to produce:

- A long-term vision for the energy system that includes the ESO's views on its own roles and responsibilities in future.
- A medium-term strategy that outlines the ESO's strategy for progressing towards the long-term vision over the five year RIIO-2 period.
- A shorter term Business Plan that details the ESO's costs, activities, deliverables and performance metrics for delivering its strategy over the first two years of the RIIO-2 period.

3.22 This was to ensure that the ESO's plans were transparent and coherent across time horizons. The ESO's shorter-term plans must be aligned with its medium-term strategy, which in turn should align with the ESO's long-term vision.

3.23 The individual deliverables together form a 'Delivery Schedule'. As set out in Chapter 2, we propose to grade explicitly the Delivery Schedule for each ESO role.

3.24 We asked the ESO to submit an updated, more detailed Delivery Schedule from the one contained in its Business Plan[14]. We have published this in a technical annex alongside this document for reference (Updated ESO Delivery Schedule).

[14] See Annex 1, Section 2- Activity architecture tables of the ESO's Business Plan: https://www.nationalgrideso.com/document/158056/download

This section outlines our assessment of the ESO's updated Delivery Schedule and our initial grading (further detailed comments can be found in Appendix 2).

3.25 The ESO Business Plan does not provide detailed deliverables for greater coordination in offshore networks or for early competition in transmission networks as both of these areas are still being explored. If and when the ESO develops delivery plans in these areas, our expectations, the ESO's Delivery Schedule and our grading of Role 3 will be updated as appropriate.

Approach to assessment

3.26 The first step in our assessment was to grade the ESO's RIIO-2 aims for each of its roles (using our 1-5 scale). For this we considered both the ESO's vision and its medium term strategies. While each Delivery Schedule and our incentive period is only for the first two-years, grading the five-year plan is designed to create transparency of our assessment and messages. In particular, where a Delivery Schedule can demonstrate that it will make sufficient, tangible progress in delivering the RIIO-2 aims, then it follows that it should receive the same score.

3.27 We then considered the ESO's two-year Delivery Schedules for each role. In order to provide a focussed steer to the ESO, we have performed an assessment for each of the activities outlined in Table 13.

3.28 We firstly considered whether the individual deliverables met our minimum requirements. Namely, whether they were specified, time bound, relevant, beneficial for consumers and in line with industry priorities.[15] To inform the latter three of these requirements we considered:

- How ambitious and well defined the ESO's vision and five-year strategy is
- Whether the two-year deliverables clearly link to the vision and five-year strategy and make sufficient progress against it
- RIIO-2 Challenge Group, ERSG and stakeholder feedback

3.29 We graded the activity with a 'yes' when the deliverables had sufficiently demonstrated the minimum requirements, and 'no' when they had not.

[15] See page 38: https://www.ofgem.gov.uk/system/files/docs/2020/03/esori_guidance_document_2020-2021_final.pdf

3.30 We then performed the second stage of our Delivery Schedule assessment. This assessed the ambition of the overall Delivery Schedule for that activity. We graded each activity as below, meets or exceeds our expectations. This informed an overall rating of 1 to 5 for the role's Delivery Schedule, where:

- 1 = the activities in the Delivery Schedule did not meet any of our expectations under that Role
- 2 = the activities in the Delivery Schedule did not meet most of our expectations under that Role
- 3 = the activities in the Delivery Schedule met our expectations under that Role, but did not exceed them
- 4 = the activities in the Delivery Schedule exceeded most of our expectations under that Role
- 5 = the activities in the Delivery Schedule exceed all of our expectations under that Role

3.31 This scoring aligns with the overall incentive scoring for each role, and therefore provides the ESO with an indication of the incentive scores it could expect to receive if it delivers the plan on time to a high standard (ie by outperforming metrics, receiving positive stakeholder satisfaction, demonstrating the achievement of benefits and providing value for money).

3.32 There is no mechanistic link between the first step of the Delivery Schedule grading (minimum requirements) and the second step (expectations). However, where deliverables do not meet our minimum requirements, it is unlikely we would then be able to conclude the Delivery Schedule exceeds our expectations.

Consultation position

3.33 Our assessment is summarised in Table 14 (further details in Appendix 2).

Table 14: Assessment of ESO's draft Delivery Schedule

What	Assessment	Role 1	Role 2	Role 3
RIIO-2 aims	Ambition (1-5)	5	4	3
Two-year Delivery Schedule	Minimum requirements met (Yes / No)	No	No	No
	Ambition (1-5)	3	3	2

Rationale for consultation position

3.34 Our views on the ESO's RIIO-2 ambitions have been informed by feedback from its stakeholders and the RIIO-2 Challenge Group, recognising that the ESO has undertaken a significant level of engagement to shape its RIIO-2 plans.

3.35 We have seen little stakeholder feedback specifically on quality and ambition of the first two-year Delivery Schedules. We have therefore relied more heavily on our own assessments, drawing relevant knowledge from our evaluation and monitoring of the ESO's forward plans during 2018-21.

3.36 The two-year Delivery Schedules did not fully meet our minimum requirements in any role. In most cases we consider the ESO has explained how the deliverables are relevant, beneficial and in line with industry priorities. However, in every role there are still a number of deliverables which are either not well specified and/or not time bound.

3.37 Given these issues, it has been challenging for us to conclude that the Delivery Schedules make sufficient progress against the five-year aims. We have not attempted to make assumptions about what a deliverable will deliver when this is not clear, as this would create the scope for misaligned expectations in the incentives scheme. As a result, plans that have good potential may have received lower scores at this point. It is possible that areas we have initially not rated as ambitious could be viewed as ambitious once the deliverables are better specified. We strongly encourage the ESO to ensure that all deliverables are well specified before Final Determinations.

3.38 More detailed narrative and rationale on our assessment is contained in Appendix 2. We are interested in stakeholders' views on our initial assessment, including any areas where you disagree with our assessment, as well as any key actions the ESO should demonstrate to meet or exceed expectations before 31 March 2023. We also plan to engage with our ESO Performance Panel to further shape our assessment in advance of the Final Determinations.

3.39 By the 9th October, we expect the ESO to provide an updated Delivery Schedule. We expect the updated Delivery Schedule to respond to our feedback on the current submission so that it meets all minimum requirements. In particular ensuring that we have clarity on what is being delivered, how it will be delivered, when it will be delivered and what success looks like for each deliverable. We also

encourage the ESO to respond to any areas where we have indicated the plan is lacking in ambition and to develop new or improved deliverables.

3.40 This updated Delivery Schedule will inform our final Business Plan grading in the Final Determinations. This will be used in the incentives scheme for 2021-23.

Outputs consultation questions

ESOQ11. Do you agree with our grading of the ESO's RIIO-2 aims and Delivery Schedule for 2021-23?

ESOQ12. What are the priorities for the ESO to achieve by March 2023 to exceed your expectations?

Performance measures

3.41 This section outlines our proposals for three types of performance measure:

- Performance metrics – numeric measures of performance which have clear ex-ante performance benchmarks for below/meets/exceed expectations;
- Stakeholder satisfaction surveys – surveys on satisfaction with the ESO which are repeated at regular intervals to track performance;
- Regularly reported evidence – numeric measures which are relevant evidence of the successful delivery of the ESO's Business Plan aims, but for which it is not possible to set reliable performance benchmarks and/or where the data is available to infrequently to be a useful Performance Matric.

Performance metrics

Background

3.42 Performance metrics are an important element of the incentive scheme. The ESO is required to regularly report on these metrics to enable stakeholders to track its performance over the course of the regulatory period. As part of its Business Plan proposal, we asked the ESO to work with its stakeholders to develop a set of stretching performance metrics for BP1. These were set out by the ESO in Annex 7 of its Business Plan (*'Metrics and measuring performance'*).

3.43 As set out in our ESORI guidance[16], at a minimum, performance metrics should be relevant, specified and robustly benchmarked. The ESO should clearly articulate how the performance metrics relate back to its RIIO-2 vision and deliverables and how they are in line with industry priorities and consumer interests. The metrics should not narrowly focus on overly discrete activities and ESO should be clear about how exactly performance will be measured. This means that each performance metric must have performance benchmarks to indicate outturn performance levels which are below/meeting/exceeding baseline expectations. These benchmarks should be challenging, with clear evidence about how the benchmarks have been set, including details about the methodology and, when possible, historical data related to ESO's performance.

Approach to assessment

3.44 Building and expanding on our minimum requirements in the ESORI Guidance, we considered the following factors to determine whether the ESO's proposal should be taken forward as proposed (discussed in more detail in Appendix 3):

- **Relevance -** whether a metric is clearly related to the ESO's performance in delivering its Business Plan, how important it is and whether the area of performance is better covered by another metric.
- **Frequency of data** – whether data on performance can be produced regularly enough for it to be used to track the ESO's performance.
- **Transparency** - the degree of transparency in the metric's methodology and whether the ESO has outlined a clear methodology for setting performance benchmarks, preferably linked to historical data.
- **Verifiability** - how verifiable performance is and whether outturn data against ex-ante benchmarks would provide sufficiently reliable information about the ESO's performance.
- **Ambition** – the level of challenge of the performance benchmarks proposed by ESO.

3.45 We assessed each metric against these factors, rating them 'Strong', 'Average' and 'Weak'. In our assessment, we also took into account the ESO's engagement with stakeholders and the views gathered during the consultation on its RIIO-2 Business Plan and 2020/21 Forward Plan.

[16] See page 40: https://www.ofgem.gov.uk/system/files/docs/2020/03/esori_guidance_document_2020-2021_final.pdf

3.46 Where metrics were not relevant we do not propose to take them forward. Where metrics were considered to be relevant, but weak from the perspective of the methodology (ie transparency, verifiability and frequency) we considered whether they could be better measured either through a different methodology or through a different performance measures. Where metrics are relevant and methodologically sound, we then considered the ambition, to consider whether benchmarks under the methodology needed to be adjusted.

3.47 Finally, we considered the overall package of metrics, in particular to establish whether they focussed on the right areas of performance for each role and did not create too much prominence on certain discreet areas of performance within a role.

3.48 Our assessment has been supported by external consultants, AFRY. Following their initial review of all metrics, we asked AFRY to specifically develop key metrics identified for further work, including those on balancing costs, security of supply, forecasting accuracy and the competitive procurement of balancing services.

Consultation position

3.49 Table 15 summarises our proposed metrics for BP1. More details, including alternative methodologies, are contained in Appendix 3. In summary:

- We are not proposing to introduce any new performance metrics as we believe the ESO has identified all the key relevant areas of performance[17];
- We propose to rationalise and streamline the number metrics from 17 to 6;
- We are proposing alternative methodologies and/or tightened benchmarks for 5 of the 6 metrics we are taking forward;
- Some proposals we consider have merit, but are not suited to performance metrics - for these, we instead propose the information should be reported ('regularly reported evidence') and considered as part of the demonstration of plan benefits criterion;
- Proposals related to stakeholder satisfaction will instead be considered as part our revised approach to stakeholder surveys and considered under the criterion on stakeholder satisfaction.

[17] Please note that a metric on wind forecasting was not originally in the ESO's Business Plan, but was subsequently added to the 2020/21 Forward Plan. We propose to continue with a wind forecasting metric for RIIO-2.

Table 15: Summary of performance metric proposals

Metric	Proposed change	Methodology	Benchmarks [18]	
Role 1				
Balancing costs	Revised method	Outturn costs versus historical average, with adjustment factors defined ex-ante and approved by Ofgem. Benchmarks adjusted each month based on outturn wind conditions. Black Start costs included.	Methodology set out prior to Final Determinations[19]	
Demand forecasting	Revised method	Average absolute % error between forecast and outturn day-ahead demand for each half hour period. Targets drawn from half-hourly data for the period between April 2014 to March 2020, with 5% improvement in performance expected each year.	Exceeds	Y1: < 3.10% Y2: < 2.94%
			Meets	Y1: 3.10-3.50% Y2: 2.94-3.34%
			Below	Y1: > 3.50% Y2: > 3.34%
Wind generation forecasting	Revised method	Apply the same methodology as demand forecasting.	Set out prior to Final Determinations	
Security of Supply	Revised method	Number of instances per year in which the frequency is +/-0.3 Hz outside of 50Hz for 60 seconds or more	Exceeds	Y1: <3 Y2: <3
			Meets	Y1: 3 Y2: 3
			Below	Y1: >3 Y2: >3
Short notice changes to planned outages	None	Number of short notice outages cancellations per 1,000 outages, due to ESO process failure.	Exceeds	Y1: <1 Y2: <1
			Meets	Y1: 1 to 2.5 Y2: 1 to 2.5
			Below	Y1: >2.5 Y2: >2.5
Role 2				
Competitive procurement	Revised method	Overall % of services procured through competitive means (auctions and tenders) measured by £ expenditure.	Exceeds	Y1: >60% Y2: >75%
			Meets	Y1: 50-60% Y2: 65-75%
			Below	Y1: <50% Y2: <65%

[18] While we set out annual benchmarks in this table for transparency, we are proposing that the scheme is two years' long. This means that performance benchmarks for the second year would be used for the final incentive decision.

[19] We intend to confirm the methodology by Final Determinations, but note that the final benchmarks may not be derived until the start of 2021/22 in order to factor in outturn costs from 2020/21.

3.50 We plan to work further with the ESO on the details of these proposals, and we welcome stakeholder's views and feedback, especially where we have proposed revised methodologies.

Rationale for consultation position

3.51 We believe the ESO was comprehensive in its development of metrics and undertook a good level of stakeholder engagement. As a result, we did not see any major gaps in the proposals. However, several metrics did not score well against our assessment factors and in some cases overlapped with other performance measures. Performance metrics should be key measures of ESO performance that can be regularly reported on and supported by robust ex-ante performance benchmarks. By streamlining the metrics, we will minimise complexity, unintended consequences and administrative burden.

3.52 We believe that although several of the proposals were relevant to the delivery of the plan and had merit, they did not meet our requirements for metrics. In particular, for longer-term focussed activities and/or those that have very strong interdependencies with the actions of other stakeholders, it was difficult to develop reliable benchmarks. We believe it makes more sense for this evidence to be considered as 'regularly reported evidence' and included within the demonstration of plan benefit evaluation criterion. Our detailed rationale for each proposal is in Appendix 3.

Outputs consultation questions

ESOQ13. Do you agree that these are the right performance metrics to assess ESO's performance?

ESOQ14. Do you agree that these benchmarks are sufficiently challenging?

ESOQ15. Do you have any comments on the revised methodologies we have proposed (in Appendix 3) for assessing ESO's performance on balancing costs and forecasting?

Stakeholder satisfaction surveys

Background

3.53 As the ESO is a provider of many services, stakeholder satisfaction is a key measure of its performance. In its Business Plan the ESO proposed to measure satisfaction with:

- A single survey that covered overall customer satisfaction (CSAT) and stakeholder satisfaction (SSAT), similar to the surveys in RIIO-1. It proposed using an average of the last three years' performance from RIIO-1 and publishing the benchmark in 2021/22.
- A survey to measures the extent to which stakeholders see the ESO as a trusted partner (based on a 'trust equation').
- To report on views on four areas of activity collected through the CSAT/SSAT, but which would not be formal metrics: code administration, customer connections, NOA (participant satisfaction), and the design authority.

Consultation position

3.54 We propose to introduce a new process for stakeholder surveys in RIIO-2. We will require the ESO to commission surveys from an independent, reputable market research company. These surveys would measure stakeholder satisfaction (eg on a scale of 1-10) for each ESO role, focussing on the key activities within the role.

3.55 We intend to include benchmarks for the survey results so there is clarity on what scores would be below/meeting/exceeding expectations. These benchmarks would be informed through discussions with the ESO's selected market research company. We consider that an average of CSAT and SSAT scores from the period 2017/18 to 2019/20 (7.5 / 10) could be a sensible starting point for further consideration.

3.56 The surveys should be undertaken on a six-monthly basis, so that they can inform the ESO's six-monthly performance reviews. The key aspects of the survey, including questions, research methods, types of participants and the performance benchmarks will be approved by Ofgem.

3.57 We expect the surveys to be designed so that key drivers and themes of feedback are recorded and can be tracked over the course of the Business Plan. We support the ESO's intention to report on trust, but this would not be a required input into the incentives framework.

Rationale for consultation position

3.58 We believe that introducing independent rigour and more Ofgem scrutiny over satisfaction surveys will provide greater assurance and confidence in the survey results. This will strengthen their role in the incentive scheme and improve the

ESO's ability to track its performance. Establishing one survey score for each role is in line with the structure of the incentive scheme and will streamline the process.

Outputs consultation questions

ESOQ16. Do you agree with our proposals for measuring stakeholder satisfaction?

Regularly reported evidence

Background

3.59 In its Business Plan, the ESO estimated that is would create £2bn of net benefits for consumers over the RIIO-2 period. Demonstration of plan benefits is another key incentive criterion we propose to continue to apply for all roles for RIIO-2.

Consultation position

3.60 For demonstration of plan benefits, we propose that the ESO should:

- Provide a general overview report on the achievement of its Business Plan benefits, every six months, in line with its proposals in section 5 of Annex 7 of its Business Plan.[20]
- Provide specific, 'Regularly Reported Evidence' on key areas of performance which we believe are relevant to successful delivery of the Business Plan's aims and benefits, but where it has not been possible to define performance metrics (Table 16).

Table 16: Proposed regularly reported evidence

Role	Regularly reported evidence	Details	Relevance	Linked ESO metric proposal
1	Skip rates	Percentage of actions taken outside of merit order in the Balancing Mechanism and the ESO's supporting rationale.	Tracks progress against zero carbon operability ambition and rollout of more sophisticated dispatch systems	n/a
1	Volume of renewables constrained	Monthly report on volume of renewables constrained.	Tracks progress against ESO ambition to have	n/a

[20] https://www.nationalgrideso.com/document/158086/download

			ability to operate the system carbon free.	
1	IT system outages	Number of unplanned outages to external facing IT systems.	Tracks quality of delivery of new and updated IT systems.	Metric 2
1	Savings from short term outage optimisation	£m avoided balancing costs saved through short term outage optimisation decisions (through use of STCP 11.4).	Tracks benefits from deeper network access planning.	Metric 14
1	Voltage excursions	Reports any voltage excursions each month including rationale.	Tracks ability for ESO to manage the system securely with rollout of more sophisticated monitoring systems.	Metric 4
2	Diversity of service providers	Monthly diversity index for technologies that provide services to the ESO in each of the markets covered by	Tracks ESO progress making all ESO markets accessible to all types of provider.	Metric 6
2	EMR decision quality	Number of overturns in the Tier 2 disputes process per 1000 applications	Track the quality of ESO's decision making process to ensure a high level of participation in Capacity Market auctions.	Metric 7
2	Medium term demand forecasting	Accuracy of demand forecasts, for EMR T-1 and T-4 auctions and as well as year ahead Transmission Network Use of System (TNUoS) charges forecasts.	Tracks whether the ESO's demand model improvements have achieved their benefits.	Metric 8
3	Consumer value from the NOA	Level of forecast savings created by the ESO through actions to encourage alternative solutions in the NOA.	Tracks whether the ESO's NOA proposals are delivering the benefits put forward in the plan.	Metric 10
3	Diversity of technologies considered in NOA	Number of different types of solutions considered each year	Tracks whether the ESO is considering all solutions to network needs within the NOA methodology.	Metric 10
3	Future savings from operability solutions	Forecast £m savings from new operability measures delivered in years post March 2023 in terms of balancing costs, infrastructure costs and monetised carbon reductions.	Tracks whether the ESO is responding to longer term network challenges through new solutions.	Metric 12 and 13

Rationale for consultation position

3.61 Being more specific about inputs to the evidence of benefits incentive criterion will strengthen the process by ensuring that the most relevant information is clearly and consistently captured and reported. It will help the panel make a more focussed assessment of performance in each role.

3.62 The areas we propose for regularly reported evidence are those we consider particularly relevant to the ESO's plan. These are mainly drawn from the ESO's proposals, but also includes suggestions raised by stakeholders and other areas we have identified through our monitoring work.

3.63 The key areas we are proposing measures not originally included in the ESO's Business Plan include evidence on skip rates and the volume of renewables constrained. We believe these are particularly relevant to tracking the ESO's achievement of its 2025 zero carbon operability ambition. We recognise that the ESO will need to sometimes take higher priced actions and constrain renewables for good reasons, and that this will be strongly influenced by external system conditions. However, we believe that by reporting and explaining the trends in this area over the course of BP1, the ESO will create transparency over the progress and effectiveness of measures delivered towards its 2025 ambitions. We also propose to expand the ESO's current medium term demand forecasting proposals to also capture year ahead TNUoS forecasts. This recognises the importance of the accuracy of these forecasts to stakeholders.

3.64 In some cases, the areas we have identified for regularly reported evidence were not suitable for performance metrics during 2021-23. However, they could help set baselines for future Business Plan periods. This may expand the number of performance metrics for the second Business Plan.

Outputs consultation questions

ESOQ17. Do you agree with proposed approach to tracking plan benefits?

ESOQ18. Do you agree with our suggested areas for regularly reported evidence?

Summary of outputs for the first Business Plan

3.65 Table 17 summarises the specific outputs discussed in this chapter that the ESO should report on during BP1.

Table 17: Incentive scheme reported outputs for BP1

Criteria	Role 1	Role 2	Role 3
a) Plan delivery	ESO Delivery Schedule Quarterly reports on progress against Delivery Schedule Dashboard report on delivery of zero carbon operability ambition[21]		

[21] This is discussed in Appendix 3, under Metric 5 – Delivery of zero carbon operability ambition.

b) Metric performance	Metrics on: 1. Balancing costs 2. Security of supply 3. Demand Forecasting accuracy 4. Wind generation forecasting accuracy 5. Short notice changes to planned outages	Metrics on: 6. Competitive procurement of balancing services	n/a
	Monthly reports on outturn metric performance and supporting rationale		
c) Stakeholder satisfaction	Satisfaction survey results for Role 1	Satisfaction survey results for Role 2	Satisfaction survey results for Role 3
	Feedback provided on the quality of Business Plan deliverables, through performance panel sessions, regular monitoring and calls for evidence.		
d) Demonstration of plan benefits	Six-monthly reporting against original Business Plan CBA focusing on areas not picked up by performance metrics		
	Regularly reported evidence on: • Skip rates • Volume of renewables constrained • IT system outages • Savings from short term outage optimisation • Voltage excursions	Regularly reported evidence on: • Diversity of providers in balancing markets • EMR decisions overturned • Accuracy of longer term demand forecasts	Regularly reported evidence on: • Consumer value from the NOA • Diversity of technologies considered in NOA • Future savings from operability solutions
e) Value for money	Discussed in Cost chapter 4		

4. Internal costs

Introduction

4.1 This chapter sets out our proposal for the regulation of the ESO's internal costs during RIIO-2. In particular, it covers:

- Our overall approach regulating internal costs for the ESO for RIIO-2;
- Our assessment of the ESO's totex for the first Business Plan period (BP1);
- Our proposed internal costs benchmark for use in the ESO's incentive scheme for BP1;
- Our approach to updating this cost benchmark during BP1;
- Our proposals to maintain the ability to disallow demonstrably inefficient and wasteful expenditure for RIIO-2;
- Our proposed approach for adjusting the ESO's shared cost allocations within the price control for BP1.

4.2 An overview of our cost assessment, discussed in this chapter, is outlined in Table 18. These positions all apply to the first two-year Business Plan (BP1).

Table 18: Overview of ESO costs assessment

Cost category	ESO requests (£m)	Ofgem Cost benchmark (£m)	Reductions (£m)	Costs for future consideration (£m)	Applicable timeframe
ESO opex	150.4	135.6	14.8	-	BP1
Capex	169.0	94.1	3.9	71.0	
Business Support Costs	160.7	128.6	15.4	16.7	
Other price control costs	33.8	15.9	-	17.8	
Total	**513.9**	**374.2**	**34.1**	**105.5**	

Approach to ESO cost regulation

Background

4.3 There are various 'internal' costs that the ESO incurs which it seeks to recover through its price control.[22] The costs which the ESO can influence form part of its total expenditure (totex). Other costs the ESO can't influence (such as licence fees and business rates) are passed-through to consumers and are not part of incentives. During RIIO-1, the ESO was subject to a Totex Incentive Mechanism (TIM), meaning that it faced a share of any over or underspend against its agreed totex allowances. This created a relatively sharp incentive to reduce costs.

4.4 In our May SSMD, we decided:

- To adopt a two-year Business Planning cycle for assessing totex;
- Not to apply a TIM on the ESO's totex;
- To introduce a 'cost trigger' process, whereby the ESO would notify Ofgem when spending exceeds a certain proportion of agreed allowances for a given activity - aiding our monitoring of the ESO's cost performance and acting as an additional reputational incentive to ensure efficient spending; and
- To align the ESO with other RIIO sectors in relation to totex disallowance arrangements.

4.5 Our May decisions recognised that the main focus of the ESO's price control should be encouraging it to deliver the best overall outcomes for the energy system and consumers, rather than minimising its totex.

4.6 We have also previously set out that outturn expenditure should be considered in incentives framework. In October, we explained that including both internal costs and external outcomes in the wider incentives framework could encourage the ESO to view striking the right balance between internal expenditure and delivering wider benefits as a key part of delivering an exceptional quality of service.

Consultation position

4.7 The ESO's costs will be recovered on a pass-through basis with no formal totex allowances like the other sectors. Our main tool for regulating expenditure will be

[22] The ESO also recovers 'external' costs. These are the costs it incurs to pay electricity market participants and network operators for services to operate the electricity system. This section discusses internal costs. External costs are regulated through our proposals in Chapter 2 and 3.

assessing value for money in the ESO's incentives scheme. To achieve this, we will introduce a new incentive evaluation criterion.

4.8 A key component of the evaluation using this criterion will be reference to an ex-ante cost benchmark. This benchmark will reflect our view of the efficient level of expenditure involved with the delivery of the ESO's proposals, drawing from our Business Plan assessment. This will be split into three ESO role specific benchmarks.

4.9 Where there is too much uncertainty on the efficient costs associated with certain investments (for example, because they are a novel and/or early stage proposal) we will not include estimated costs for these investments in the starting cost benchmark. Instead, we propose to reassess the costs for beneficial but uncertain investments once these proposals reach a sufficient stage of maturity, and then to update the cost benchmark accordingly.

4.10 We will not automatically deem any overspend or underspend against this benchmark as demonstration of poor or good value for money. Overall value for money will be assessed in conjunction with our assessment of the ESO's delivery of its Business Plan and outputs.

4.11 The benchmark will represent the efficient costs for a plan that meets our expectations. Therefore, if the ESO exceeds our expectations in delivering its outputs and spend in line with the benchmark, then it will also exceed expectations in delivering value for money.

4.12 Table 19 outlines our current thinking on the guidance for value for money assessment. Detailed guidance will be developed and consulted on within the ESORI guidance drafting alongside the informal licence changes consultation later this year.

4.13 We will require the ESO to report on its expected expenditure against each role specific benchmark on a six-monthly basis, as part of its incentive performance reports. This report will include an overview of the costs incurred over the course of the Business Plan period to date, and the ESO's forecast for the remainder of the two-year period. The ESO should provide evidence-based reasons for any material deviations from this benchmark. We expect the reasons should be closely linked to its outputs delivered.

Table 19: Value for Money incentive criteria guidance

Incentive Criteria	Details	Below	Meets	Exceeds
e) Value for money	Measures whether the ESO has delivered value for money, considering its outturn spend against an internal cost benchmark, the ESO's explanations for any cost deviations, and the outputs it has delivered.	Cost in line with or above cost benchmark for <3 rated plan. Any material increases above the benchmark not well justified and/or not supported by the delivery of additional beneficial outputs	Costs broadly in line with or below internal cost benchmark while effectively delivering a 3 rated plan. Any material increases above the benchmark well justified and/or supported by the delivery of additional beneficial outputs	Costs broadly in line with or below internal cost benchmark while delivering a >3 rated plan. Any material increases above the benchmark well justified.

4.14 Where differences in projected spend are immaterial, and there has been no material change in output delivery, we do not intend to scrutinise value in any detail. Where differences are more substantial, the reasons for this will be considered by ourselves and the performance panel as part of the ESO's six monthly performance reviews. This proposal supersedes our previous thinking on a cost trigger process.

4.15 The conclusions from our totex assessment, our initial proposed cost benchmark per role and our proposed approach to updating this benchmark, are outlined in the rest of this chapter.

4.16 As confirmed in May, as a backstop tool, we will retain an ability to disallow demonstrably inefficient and wasteful totex expenditure (the same tool exists at present and may be applied to all network companies during RIIO-1). However, we have set out principles for when and how this might be used for the ESO in response to stakeholder feedback. More details on this proposal are at the end of this section.

Rationale for consultation position

4.17 While the main focus of the price control should be on the ESO's delivery of wider outputs, the ESO's internal costs still make a material contribution to annual

industry charges. We consider that it is important to motivate the ESO to deliver value for money, by running its business efficiently and using its pass-through funding to create the maximum overall benefit for consumers.

4.18 Using the incentive scheme as the main tool to consider value money allows outputs and inputs to be considered together on a consistent basis to determine the ESO's overall performance. The value for money criterion will be one component of a wider performance evaluation process. This will ensure there is not a disproportionate focus on internal costs and the ESO will remain incentivised to deliver the most benefits for consumers across the spectrum of its activities.

4.19 We recognise that the ESO's priorities and costs can change for good reasons, particularly in a rapidly evolving and uncertain environment. This is why we intend to place emphasis on the supporting rationale for expenditure rather than just on performance against the benchmark. Using the ESO's incentives scheme also facilities more regular monitoring and performance discussions on the reasons for expenditure deviations. Having a value element within the incentives should further reduce the likelihood of us calling on our backstop power to disallow demonstrably inefficient and wasteful expenditure.

4.20 Requiring the ESO to report its costs alongside the outputs it has delivered will allow a holistic consideration of value for money. Given this regular reporting, we now believe the inclusion of a separate cost trigger process would be superfluous to requirements.

Costs consultation questions

ESOQ19. Do you agree with our overall approach to cost regulation for the ESO?

Totex assessment

Background

4.21 There are four main categories of costs that the ESO incurs as part of its totex. These are outlined in Table 20.

4.22 The ESO shares certain functions with other National Grid Group companies, including IT, HR, finance, legal and procurement. The costs associated with these functions are allocated to the ESO by National Grid Group. Some of these costs

are allocated on an indirect basis, based on a methodology to reflect the ESO's approximate usage. Others are allocated to the ESO directly (for example costs for ESO-specific property or IT investments).

Table 20: ESO Totex categories

Cost category	Sub categories	Details	Costs part of National Grid shared service?
ESO operational costs (ESO Opex)	Role 1	Operating costs that are directly incurred by the ESO to deliver its outputs under its three roles. Predominantly staff and external contractor costs. Supporting Operational Costs includes the costs of teams that cut across the three roles, such as regulation, stakeholder engagement, innovation and business change.	No
	Role 2		
	Role 3		
	Supporting Operational Costs		
Capital expenditure (Capex)	IT and Telecoms (IT&T)	Predominantly the cost of the ESO's control centre architecture and market platforms.	Yes
	Property	Building costs associated with the ESO's Wokingham control centre and share of National Grid Warwick and Strand offices.	
Business Support Costs (BSC)	IT&T	Costs for services provided by National Grid Group to support the ESO's general business activities. Predominantly IT operating costs.	Yes
	Property management		
	HR and non-operational training		
	Finance, audit and regulation		
	Insurance		
	Procurement		
	CEO and group management		
Other price control costs[23]	n/a	Other costs that do not fall into the above categories, including pension admin fees and cyber security.	Yes

4.23 In its Business Plan for 2021-2023 (BP1), the ESO proposed to increase its total spending compared to RIIO-1 averages, as shown in Table 21. This is largely

[23] Note: while the ESO submitted innovation allowances in these category, they will not be part of incentivised costs, so we have removed them. Innovation allowances are discussed in Chapter 5. Additionally we have now included Pension Admin fees within this category.

driven by its proposals to invest in new IT infrastructure, which it believes is critical to achieving its 2025 ambitions. There were also material increases in the allocations of indirect IT costs allocated to the ESO by National Grid plc, and the ESO requested increases in opex in each of its roles.

Table 21: ESO RIIO-1 averages versus proposed RIIO-2 BP1 average totex

Cost category	RIIO-1 annual average (£m)	RIIO-2 BP1 annual average (£m)	Increase (%)
ESO opex	60.5	75.2	24%
Capex	47.7	84.5	77%
BSC	52.7	80.4	53%
Other price control costs	15.6	16.9	8%
Total	**176.5**	**257.0**	**46%**

Approach to assessment

4.24 Our assessment of costs is for first the two-year Business Plan period of the ESO's RIIO-2 proposals (BP1). We have reviewed the five-year proposals for context, but we have not performed an assessment of cost efficiency after 31 March 2023. The assessment draws from the information submitted in the ESO's Business Plan and supporting data tables, as well as the ESO's responses to a number of supplementary questions asked following the Business Plan submission.

ESO opex

4.25 Our opex assessment for the ESO is unique to the ESO and employs a bottom up approach. This involves the combination of:

- Quantitative analysis of historical run rates to establish changes in spending for each sub category of costs;
- Qualitative reviews of the supporting narrative for expenditure and associated outputs by Subject Matter Experts (SMEs) within Ofgem.

4.26 Any reductions we have made are on a case by case basis. Where no strong rationale has been provided for cost increases by the ESO, we've reduced costs back down to RIIO-1 levels. Where justifications are partially provided, we have reflected this in our adjustments (for example, we may have deemed an increase in staff numbers merited, but not the level of costs associated with those staff).

4.27 This is different from our assessment for similar cost types for other networks where we have used top down econometric analysis. Other networks' opex activity can more readily compared against each other. Their costs are more stable and uses consistent cost categories going back multiple price control periods. Our approach for the ESO recognises that its activities are unique and that it is going through a transition, which does not facilitate similar comparison benchmarking.

Capex

4.28 The ESO's IT&T capex proposals have been assessed with the input of our external experts, Atkins. The assessment approach was consistent for all National Grid Group companies' IT&T costs, although Atkins produced a separate, targeted report for the ESO given the larger focus IT has in the ESO's totex.

4.29 Atkin's reviewed the strength and traceability of the proposed IT projects against four main criteria: robustness of project justification; credibility of planning; understanding and deliverability of resource definition; and efficiency and certainty in costing the first criterion determined whether ex-ante funding was appropriate for the proposed IT projects. Then, a Red Amber Green (RAG) assessment based on the other three criteria was used to identify the recommended level of funding.

4.30 The quality threshold for recommending ex-ante costs for a project was to have provided a robust justification and, no red RAG assessments on the other three criteria. Projects which did not meet this quality threshold, were instead recommended for future consideration. Please see Atkins' RIIO-2 IT and Telecoms Assessment – ESO Report (Atkins IT&T ESO Report), which is included as a technical annex to this document, for more information.

4.31 Property costs were assessed using the bottom-up approach employed for ESO opex given the ESO's control room is relatively unique.

Business Support Costs (BSC)

4.32 The ESO's IT&T opex falls within BSC. This was also assessed as part of Atkins' review of IT&T costs, with more details in the associated Technical Annex. Given the lack of detailed information for expenditure in this category, an overall RAG assessment was performed on the request to determine the appropriate level of funding (rather than a project by project assessment).

4.33 Our assessment of the remaining BSC has been conducted using the bottom-up approach employed for Property and ESO opex. Due to the lack of comparability between the individual system operators and the TOs, ESO and Gas System Operator (GSO) costs have not been subject to econometric analysis and excluded from the cross-sector benchmarking conducted for the TOs.

Other price control costs

4.34 Other price control costs were also assessed using the bottom-up methodology described above. Our assessment of Cyber IT costs is confidential and not discussed in this document in the interests of national security.

Consultation position

4.35 We consider that the ESO has generally provided a good justification for why its proposals are needed and in consumers' interests.[24] We are therefore not proposing to reject any requested funding on the basis that the project is unnecessary or not in consumers' interest.

4.36 We consider that the ESO could deliver its two-year Business Plan proposals more efficiently in some cases, with £14.8m less ESO opex, £15.4m less BSC (mainly related to ongoing, business as usual IT opex) and £3.9m less Property Capex.

4.37 We have deemed £86.7m of IT&T costs are too uncertain to perform a reliable costs assessment. Fifteen of the 47 IT&T projects proposed by the ESO did not reach a sufficient quality threshold for Atkins to recommend an ex-ante funding level, and the remainder all received at least one Amber rating, resulting in a lower initial funding recommendation at this stage. We propose to reassess the remaining requested costs at a future date, as discussed below.

4.38 An overview of our conclusions on the efficient spend for each Business Plan category is outlined in Table 22. A more granular breakdown of ESO Opex and IT&T Capex (including individual project conclusions) is contained in Appendix 4.

[24] There are a few IT projects which did not, at this stage, meet the justification criteria of Atkins's review. However, given the strength of the ESO's overall vision, we have proposed to further consider these projects and their costs during the price control rather than reject the projects outright.

Table 22: Totex assessment overview

Cost category		Funding Request £m	Proposed efficient cost £m	Efficiency reductions £m	Uncertain costs for future consideration[25] £m
ESO Opex					
(a)	Role 1	61.6	55.8	5.8	-
(b)	Role 2	35.1	31.9	3.2	-
(c)	Role 3	38.2	34.5	3.7	-
(d)	Supporting Operational Costs	15.5	13.4	2.1	-
(e)	**Total ESO Opex (a to d)**	**150.4**	**135.6**	**14.8**	**-**
Capex					
(f)	IT&T	162.4	91.4	-	71.0[26]
(g)	Property	6.6	2.7	3.9	-
(h)	**Total Capex (f+g)**	**169.0**	**94.1**	**3.9**	**71.0**
BSC					
(i)	IT&T	128.2	97.3[27]	14.2	16.7[28]
(j)	Property management	11.4	11.4	-	-
(k)	HR and non-operational training	4.8	3.7	1.1	-
(l)	Finance, audit and regulation	6.4	6.4	-	-
(m)	Insurance	1.6	1.6	-	-
(n)	Procurement	1.5	1.3	0.2	-
(o)	CEO and group management	6.8	6.8	-	-
(p)	**Total BSC (i to p)**	**160.7**	**128.6**	**15.4**	**16.7**
Other price control costs					
(q)	**Other price control costs[29]**	**33.8**	**15.9**	**-**	**17.8**
Total incentivised costs					
Total Costs Within Price Control (e+h+p+q)		**513.9**	**374.2**	**34.1**	**105.5**

[25] Please note, this is related to the value of the ESO's funding request and not intended to be an indication of the potential size of any future adjustments the incentive cost benchmark.
[26] We note that this is larger than the number presented in the Atkin's report for an uncertainty mechanism. We have decided to consider all IT project costs at a future date as part of the uncertainty process set out in this chapter.
[27] This value is slightly higher that the Atkins recommendation, reflecting a small uplift applied following our review of a supplementary question response provided by the ESO.
[28] As above.
[29] This category has two changes from the time of the ESO's submission. Pensions Admin costs are now included, but innovation is not included.

Rationale for consultation position

4.39 We believe the ESO has set out a highly ambitious plan for 2025 and we recognise that the new projects it has put forward are critical to achieving this. We have also seen a strong level of stakeholder support for the ESO's proposals. We have therefore given the ESO flexibility to fund efficient and beneficial new investments.

4.40 We have not tried to provide costs estimates when insufficient information has been provided by the ESO for us to do so. This is because attempting this would result in an unreliable cost benchmark, which would create uncertainty and risk in the incentives scheme. Our incremental approach to the cost assessment for uncertain costs acknowledges the need for the ESO to take forward its proposals now rather than delaying them to future Business Planning periods.

ESO Opex

4.41 We acknowledge an increase in expenditure is merited for the ESO to achieve its 2025 vision, particularly given the introduction of a number of new projects and its aim to increase expand its focus towards whole energy system issues. However, the level of cost increase is not in all instances well justified when considered against the proposed outputs over BP1. In some cases, there is a material increase in proposed expenditure from the end of RIIO-1 for activities are not materially different. In others, the need for additional headcount has been explained but the level of costs increase associated with the new headcount has not been. In these cases, we have reduced costs down towards RIIO-1 levels. The results of our assessment for each sub category of ESO Opex are in Appendix 4.

Capex

4.42 We consider that while the ESO has explained why a lot of its IT&T projects are necessary, a considerable proportion of the expenditure is highly uncertain given the early stage nature of the proposals and lack of clarity on the solutions. The ESO has highlighted that scoping of the project solutions will in many cases occur during the first two years of the price control. Our proposed starting efficient benchmark is directly drawn from the conclusions in Atkins IT&T ESO Report.

4.43 For property capex, we have reduced to RIIO-1 average, as there is a lack of evidence to support the cost increases allocated to the ESO. The ESO has highlighted additional work in its Wokingham office, but has not explained what this investment is or why it is needed. Additionally, it has not explained what a

corporate presence in London involves and why capex costs may be justified for this. Finally, we consider ESO separation should not involve an increase in capex in RIIO-2 given allowances for building upgrades were granted for this in RIIO-1.

BSC

4.44 We have considered the information provided by National Grid Group and the ESO to justify IT&T opex, including information received through supplementary questions. We do not believe the step change in costs between RIIO1 to RIIO2 (equivalent to a 123% increase) has been sufficiently well evidenced.

4.45 For ongoing IT&T opex, the ESO has highlighted as a reason for the uplift a move away from traditional built and owned capex solutions to more scalable and flexible cloud-hosted opex solutions. However, this shift in spend profile not been clearly explained or set out, and it is not plainly evident in the capex requests. Additionally, we do not consider the method to forecast run the business (RTB) costs, which is predicated in part on assumed uplift percentages and estimates, provides sufficient assurance over the projections and their underpinning assumptions. We recognise that some costs increase is merited for increased headcount. We have therefore partially reduced values down towards RIIO-1 levels, broadly in line with funding levels recommended in the Atkins IT&T ESO Report, with a small uplift in response to our review of supplementary questions.

4.46 Our proposed reduced initial value for transformational IT&T opex reflects the level of uncertainty over the increases at this stage, linked to the early stage nature of the ESO's new IT projects. We accept IT opex could be merited as new IT projects are firmed up and they move towards the delivery phase. This is why we propose to consider including IT&T transformational opex in our incentive benchmark at a future date, alongside our assessment of uncertain IT&T capex costs.

4.47 We have proposed a reduction in HR costs to the RIIO-1 average, reflecting the lack of clear explanation of how the efficiencies achieved at the end of RIIO-1 are factored into the proposed increases, why HR services for critical power system engineering roles involves new costs, and also reflecting our proposed reductions in opex elsewhere. We have also proposed reducing procurement costs to the same as RIIO-1 levels as no clear reason for an increase was provided in the Business Plan. With the exception of IT&T, HR and procurement, funding requests

were broadly in line with or lower than historical run rates and we have therefore deemed them to be an acceptable cost.

Other price control costs

4.48 Our assessment of Cyber IT costs is confidential and not discussed in this document in the interests of national security.

Costs consultation questions

ESOQ20. Do you agree with our assessment of the ESO's totex?

Proposed internal cost benchmark per role

Background

4.49 As explained, we propose that a cost benchmark will be a key point of reference for our cost monitoring and value for money evaluation in the incentives scheme.

Consultation position

Table 23: Initial cost benchmark proposals

Role	Two year benchmark £m	Calculation[30]
Role 1	151	Role 1 opex (Table 22, row a) + 1/3 supporting Operational Costs (Table 22, row d) + 45% allocation of capex (Table 22, row h) + 1/3 of Business Support Costs (Table 22, row p) + 1/3 Other price control costs (Table 22, row q)
Role 2	117	Role 2 opex (Table 22, row b) + 1/3 supporting Operational Costs (Table 22, row d) + 35% allocation capex (Table 22, row h) + 1/3 of Business Support Costs (Table 22, row p) + 1/3 Other price control costs (Table 22, row q)
Role 3	106	Role 3 opex (Table 22, row c) + 1/3 supporting Operational Costs (Table 22, row d) + 20% allocation of capex (Table 22, row h) + 1/3 of Business Support Costs (Table 22, row p) + 1/3 Other price control costs (Table 22, row q)
Total	**374**	

[30] The % allocations of capex have been calculated using information provided by the ESO in Annex 4 of its Business Plan, including which IT projects relate to which roles/themes. We have considered IT project 500 as most relevant to Role 1 rather than Role 2. In most cases, where a

4.50 We propose to set a benchmark for each ESO role. The benchmark for each role will include the ESO Opex allocated to that role, a proportion of total capex (designed to broadly reflect the proportion of IT that contributes to that role) and a third of the remaining costs. The benchmark will not include Non-Activity Based costs (such as licence fees and business rates) or the ESO's NIA allowance.

Rationale for consultation position

4.51 Setting a benchmark per role ensures consistency with the structure of the incentives scheme. The method chosen to allocate costs per role is designed to approximately reflect the share of total costs for that role, enabling a more accurate assessment of value for money for that role. We consider that this approximate method (rather than using a detailed bottom-up assessment) is appropriate given that a lot of spend will cut across multiple Roles. It will also avoid unnecessary complexity and minimise the risk for unintended consequences.

4.52 We do not consider that Non-Activity Based costs should be included in the benchmark as the ESO has limited or no ability to influence these. We instead propose to continue treating these as a non-incentivised pass through items, as was the case in RIIO-1. Innovation spend is not included in the benchmark as this funding is provided as use it or lose it allowance, and unlike other costs is capped.

Costs consultation questions

ESOQ21. Do you agree with the method we have taken to set each role-specific cost benchmark, including the proportions of capex and business support allocated to each role?

Process to update the internal cost benchmark

Background

4.53 As outlined in this chapter, we propose to assess £86.7m of uncertain IT&T costs incrementally and update our cost benchmark accordingly. This would be tied to the level of maturity in the ESO's investments.

4.54 The ESO has outlined to us the stages each of its IT projects goes through in Table 24.

Table 24: ESO's IT investment stages

Stage	Description
Scoping	• High-level objectives and scope of the project defined • Constraints and assumptions stated • Estimated costs and benefits • Lessons learned and noteworthy documents/links
Start-up	• Project initiation document • Financial model and high-level costs / benefits • Investment proposal for requirements and design • Allocated resources
Requirements and Design	• Defined requirements and scope • Functional design and solution • Development and implementation plan and budget • Support and transition plan
Development and testing	• Developed solution/service • Testing complete
Implementation	• Solution/service implemented in production • Post implementation support concluded and handover complete • Post investment appraisal plan complete

Consultation position

4.55 We propose to consider updates to the cost benchmark on a bi-annual basis, alongside the ESO's six-monthly performance reviews. To facilitate this, we propose to require the ESO to submit the information in Table 25, for all 43 of its IT projects, whenever there is a change to a project's investment stage or major change to expected costs. Any new information submitted less than six weeks ahead of a performance review will not be considered until the subsequent six-month review.

Table 25: Reporting requirements for uncertain IT

Project	Original forecasts £m	Ofgem benchmark costs	Current investment stage	Refined estimate £m	Supporting information
Name and BP ID	Cost forecasts from December BP, split by opex and capex	As set out in Appendix 4, and finalised at Final Determinations	As described in Table 24	Latest cost estimate, split by opex and capex	Evidence to demonstrate this is an efficient cost, including relevant benchmarking.

4.56 We will adjust the cost benchmark when investments move to a sufficient stage of maturity and we believe the ESO has provided sufficiently certain costing. At this

point in time, we anticipate that the ESO will be able to provide sufficient information for us to perform a cost assessment and update the benchmark when a project reaches the 'Requirements and Design' investment stage.

Rationale for consultation position

4.57 We believe the proposals above strike the right balance between allowing the ESO to progress beneficial investments at pace, while setting a robust and reliable ex-ante cost steer. We consider it to be a proportionate process which aligns with the key points at which the ESO's performance will be assessed.

Costs consultation questions

ESOQ22. Do you agree with our proposed approach to updating the internal costs benchmark within the price control?

Disallowance of demonstrably inefficient or wasteful expenditure

Background

4.58 Throughout RIIO-1 all network companies, including the ESO, were subject to the Regulatory Instructions and Guidance (RIGS) which set out the rules for ensuring only efficient costs were recovered through the price control. The RIGs states:

> ***Efficient costs***
>
> Ofgem reserves the option to disallow costs from the RAV for any of the Totex expenditure if they do not relate to the regulated business or are demonstrably inefficient or wasteful. We will specifically review all costs in relation to restructuring of a company's business or operations in relation to corporate transactions, including the associated redundancy costs to satisfy ourselves that these costs are efficient and will deliver future savings for the benefit of the consumer.

4.59 The ESO and some stakeholders, including the ERSG, have previously expressed concerns that an overly penal approach to costs disallowance could create risk

averse behaviour and disincentivise the ESO from investing in new novel IT solutions.

Consultation position

4.60 We propose to retain in RIIO-2 the power to disallow demonstrably inefficient or wasteful expenditure (DIWE) contained in the RIGs, as was the case for all companies during RIIO-1. However, we propose capping the annual ESO DIWE disallowance at 10% of the ESO's RAV at the time of spend[31].

4.61 In response to stakeholder feedback and some potential misconceptions about this policy, we have also developed 'ESO Disallowance Principles' to help guide understanding of the kind of circumstances and the likely approach in which this tool could be used for the ESO.

4.62 We propose to introduce licence obligations from 1 April 2021 that require the ESO to create and submit to Ofgem a limited number of key internal ESO expenditure policies. Ofgem will approve these near the start of the RIIO-2 period (and then on an as required basis following any subsequent changes to these). These policies must include the following areas of expenditure:

- Staff remuneration
- Travel and expenses

4.63 We will work with the ESO to establish whether any further policies are required ahead of the Final Determinations.

ESO Disallowance Principles

4.64 Although we are proposing a continuation of our existing approach to disallowance of DIWE expenditure, the following principles are intended to provide greater ex ante certainty about how and when ESO expenditure may be disallowed. To date we have never disallowed any ESO expenditure and we anticipate that disallowance will continue to be a backstop used by exception rather than a frequently used regulatory tool. The principles are listed below:

a) There is no practical change from the core existing RIIO-1 approach: all efficient expenditure will be recoverable.

[31] The disallowance cap is annual. Spend for the same project in a subsequent year would be subject to the subsequent year's cap. If a spend were disallowed at a later date, the cap would apply to the year in which the original spend was made and would be set with reference to the RAV of that year.

b) All expenditure is presumed efficient until Ofgem comes to the decision that it is inefficient.
c) Disallowance is not a regularly scheduled process. Disallowance considerations will be initiated only if evidence of potential inefficiencies emerge.
d) Expenditure that is consistent with policies (eg, staff remuneration, travel and expenses) approved by Ofgem will not be considered as inefficient or wasteful.
e) Efficiency will be considered on the basis of the knowledge and the information that should have been reasonably available to the ESO at the time of incurring the expenditure.
f) Overspend against initial allowances does not equate automatically to inefficient expenditure. Reasoned and justified cost increases may be efficient.
g) Any disallowance decisions would take into account the ESO's financeability and shall have regard to the need to ensure that the ESO is able to finance the activities which it is obligated to undertake.
h) Where any expenditure is disallowed within a two-year Business Plan period, those costs will not be considered as outturn expenditure for the incentives decision at the end of the two-year period.
i) All disallowance decisions will be published.

Rationale for consultation position

4.65 The price control is designed to fund the regulated business of the ESO. The DIWE provision helps ensure that only costs related to the regulated business are passed through to consumers. The existing RIIO-1 power protects consumers from demonstrably inefficient or wasteful expenditure and we continue to believe this protection is appropriate for RIIO-2.

4.66 We recognise that the disallowance of costs has the potential to impact the ESO to a greater extent than other network companies due to the ESO's small asset base relative to its annual totex. A 10% cap brings the ESO's exposure in line with other networks (whose annual totex is approximately that proportion of its RAV). While we still view this tool as a backstop used by exception, we believe introducing this cap would help reassure investors that the ESO is not exposed to disproportionate risk in this area.

4.67 We are aware from discussions with the ESO and the ERSG of a number of common misunderstandings about how this process will work in practice and its interaction with other areas of the price control. Our disallowance principles are

intended to address these misconceptions. In approving polices on staff remuneration and travel and expenses we will further align expectations and provide ex ante certainty regarding what is deemed efficient versus demonstrably inefficient or wasteful expenditure. If a policy is not approved by Ofgem the ESO will not have the ex-ante certainty regarding its expenditure in this area.

Costs consultation questions

ESOQ23. Are our disallowance proposals proportionate and do they provide the ESO with sufficient ex ante certainty?

Rules for shared costs allocations

Background

4.68 As set out above, certain functions are shared by National Grid Group companies. During RIIO-1, National Grid Group allocated shared costs between its businesses in line with the Unified Cost Allocation Methodology (UCAM).

4.69 The UCAM was developed to encourage a consistent, transparent allocation of shared services costs that maximises the direct attribution of these costs. It employs a principles-based, flexible methodology that requires the ESO to report the drivers for cost allocations, which National Grid Group has the flexibility to change within the price control. Further details of the drivers can be found in Annex 8 of the ESO's Business Plan.

4.70 The RIIO-1 price controls for the ESO, NGET and National Grid Gas (NGG) have a consistent design. There is limited potential therefore for changes in the shared services costs allocations to impact overall National Grid Group profitability. For RIIO-2, the ESO will have a pass-through funding model with two-year Business Plan periods, while NGET and NGG will retain a totex incentive mechanism and allowances fixed for a five-year period.

Consultation position

4.71 Our current view is that the UCAM approach for shared services appears appropriate. We note, however, that the values of the ESO's allocation are considered in the Totex Assessment section of this document and will be subject to the changes proposed in the ESO IT governance chapter of this document.

Following publication of the Draft Determinations for the ESO, NGET and NGG we will consider further the relative proportions of shared services costs for these businesses as an additional check on the cost allocation methodology.

4.72 Although we will continue to allow cost drivers to be amended by National Grid Group, we propose new requirements to ensure any changes to these drivers are identified and explained more clearly. In particular, the ESO should notify Ofgem of any change, explaining the reason for the change and the cost implications for each National Grid Group regulated business. The notice should confirm that the ESO Board has considered and approved the change and is satisfied that the change is fair and reflective of the ESO's consumption of shared services.

Rationale for consultation position

4.73 Continuing to provide National Grid Group with the flexibility to change cost drivers allows the accurate allocation of these costs to the ESO. However, this flexibility also creates risks. The ESO's pass through remuneration model means extra vigilance will be required in regards to any future changes to the ESO's allocations of shared services costs. We believe tightened reporting requirements is a proportionate response to the increased risk created by the ESO having a different remuneration model to NGET and NGG.

4.74 We also considered stronger measures such as a formal regulatory approval process for any changes to costs allocations. However, we didn't see this as necessary for the following reasons:

- Our evaluation of value for money in the incentives and use of an internal cost benchmark should encourage the ESO to oppose any reallocations of shared services costs that are not fair and reasonable;
- We will reassess ESO Business Plans every two years, and will therefore look at shared costs allocations in detail regularly;
- The majority of shared services costs are accounted for by IT. From 2023, we are proposing to separate the ESO's IT from National Grid Group. An annual approval process would be a disproportionate burden relative to the level of costs remaining if shared IT shared costs are removed.

4.75 We may revisit this policy before the next Business Plan in 2023, based on experience over the first two years, and subject to the swift implementation of separation between ESO IT and National Grid Group IT.

Costs consultation questions

ESOQ24. Do our proposed changes to the reporting of changes to the ESO's shared services costs offer a sufficient level of consumer protection?

5. Finance

Introduction

5.1 In the following sections we propose financing assumptions for the notional ESO, carried out in line with the methodology in our October 2019 document. This includes:

- Allowed return on capital, incorporating an allowance for debt financing of the RAV, and an allowance for equity financing of the RAV;
- An additional funding allowance;
- Revenue collection, financial resources and the working capital facility
- Our financeability assessment and proposed gearing
- Other finance issues

5.2 This chapter should be read alongside our Finance Annex. We welcome views on any of the finance issues set out in the Finance Annex, given the cross-cutting nature of some of these issues. Table 26 summarises our proposals and where they can be found.

Table 26: Finance proposals for the ESO

Finance Area	Proposal / assessment	Applicable timeframe	Location
Allowed return on capital	Forecast to be 2.35% over RIIO-2	RIIO-2	This chapter
Allowance for debt financing of RAV	Debt allowances to reflect shorter term debt measures which we forecast to be -0.05% on average over the 5-year period of RIIO-2.	RIIO-2	This chapter
Allowance for debt financing of RAV	Equity allowances to reflect the ESO's risk profile and framework which we forecast to be 5.28% on average over the 5-year period of RIIO-2	RIIO-2	This chapter
Additional funding	£1.9m (nominal prices) in light of ESO's claims and our assessment	RIIO-2	This chapter
Revenue collection			This chapter
Financeability	We find that a notional ESO can finance its licenced activities, and propose a 55% notional gearing level for RIIO-2	RIIO-2	This chapter
Other finance issues	ESO-specific 7-year period for depreciation and capitalisation rates that reflect opex and capex expenditure. Most other issues consistent with approach taken for networks.	Mostly RIIO-2, some BP1	This chapter and Finance Annex

WACC allowance

A summary of our proposals for debt and equity financing of RAV

5.3 We summarise in Table 27 our proposals for the ESO's Weighted Average Cost of Capital (WACC) allowance as explained in the remainder of this chapter

Table 27: Draft Determinations on the baseline allowed return on capital

Price base	Component	Average - five years ending 31st March 2026	Ref	Source
		ESO		
CPIH	Notional gearing	55%	A	Page 86
	Cost of equity	5.28%	B	Table 29
	Expected Outperformance	0%	C	Page 78
	Allowed return on equity	5.28%	D	D = B – C
	Allowed return on debt	-0.05%	E	Table 28
	Allowed return on capital	2.35%	F	F = A * E + D * (1 – A)

An allowance for debt financing of the RAV

Background

5.4 In the ESO October methodology decision we decided to use full indexation to determine the cost of debt allowance for the ESO.[32] This means that the allowance will be updated each year to reflect outturn data on a benchmark debt index.

5.5 We indicated that at Draft Determinations we would propose a calibration for the cost of debt indexation mechanism.

5.6 In the SSMD Finance Annex[33] and ESO October methodology decision[34] we indicated that ESO's asset profile, history and risk, may justify a bespoke mechanism for the cost of debt.

[32] https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=13
[33] SSMD finance annex, Footnote 7, page 12
[34] ESO October methodology decision, paragraph 2.5
https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=10

Consultation position

5.7 Considering the issues described in paragraphs 5.9 to 5.18 below, alongside our principals for setting a cost of debt allowance, we propose the following debt allowance for each year t:

i) Calculate the simple average of the overnight SONIA rate between 1st April and 31st March in year t[35]
ii) Calculate the three year trailing average[36] asset swap margin on the a) 5-7yr iBoxx Utilities index and b) the 7-10yr iBoxx Utilities indices (using the asset swap margin on each date as published by Markit) and calculate a simple average of a) and b)
iii) Calculate the 3yr trailing average[37] differential between 6 month LIBOR and overnight SONIA
iv) Add theThe result of each of the three steps above and add 0.1% (10bps) for transaction costs
v) Deflate the nominal rate result of the above four steps by the longest available OBR forecast for CPI as a proxy for CPIH, using the Fisher equation, to produce an allowance in CPIH real terms.

5.8 For forecast purposes we have used calculated overnight SONIA forecasts using Bank of England SONIA OIS and have applied the results of steps (ii) to (v) set out above. Our data cut-off date is 11 May 2020, which results in the following ESO cost of debt forecasts shown in Table 28.

Table 28: Our current forecast for an ESO cost of debt allowance

Year Ending	SONIA forecast	3yr Ave ASM	3yr Ave SONIA vs 6ML	Transaction costs	Total (nominal)	Long term CPIH assumption	Total (CPIH Real)
2022	0.06%	1.47%	0.23%	0.10%	1.86%	2.02%	-0.16%
2023	0.11%	1.47%	0.23%	0.10%	1.91%	2.02%	-0.11%
2024	0.17%	1.47%	0.23%	0.10%	1.97%	2.02%	-0.05%
2025	0.24%	1.47%	0.23%	0.10%	2.04%	2.02%	0.01%
2026	0.27%	1.47%	0.23%	0.10%	2.07%	2.02%	0.04%
RIIO-2 Average							**-0.05%**

[35] As this does not involve a lag an estimate would need to be calculated in November 2020 and trued up in the annual iteration process the following year. The estimate will be based on SONIA between 30th April 2020 and 31st October 2020 (and corresponding dates for each year thereafter)
[36] From 1st November t-3 to 31st October t, with estimate based on 1st November t-4 to 31st October t-1
[37] From 1st November t-3 to 31st October t, with estimate based on 1st November t-4 to 31st October t-1

Rationale for consultation position

5.9 The ESO, as part of its Business Plan, assumed it would raise floating rate bank debt, ie debt for which the interest rate payable varies over the tenor of the debt rather than being fixed in advance. Since a benchmark index for the total cost of floating rate bank debt is not available the ESO proposed a mechanism that approximates the interest rate it will face at each point in time based on available benchmarks.

5.10 The ESO proposed an allowance to reflect the combination of the 5-7 and 7-10yr GBP non-financial BBB rated iBoxx indices. The ESO proposed BBB indices rather than a combination of A and BBB rated indices because it considered it would likely raise 7yr bank debt on average and it considered the notional company rating to be firmly in the BBB rating category.

5.11 As discussed in chapter 2 of the Finance Annex we do not consider the choice of index need directly relate to the expected rating of the notional company because although rating influences debt pricing, it is not the only factor and there could be other reasons a network rated in a certain category could consistently outperform an index of that rating category (this has been become known as consideration of the so called 'halo effect').

5.12 Our analysis[38] on the performance of network company debt issuances compared to a) the simple average of A and BBB rated indices and to b) the GBP Utilities index (which has no particular rating category eligibility criteria, other than investment grade), indicates that the iBoxx GBP Utilities indices are expected to be a better match for network debt costs.

5.13 We therefore propose using the iBoxx GBP Utilities indices (rather than the non-financial A or BBB indices) for all networks, including the ESO.

5.14 The ESO also proposed a 25bps to the indices to reflect a 'notional company adjustment', on the assumption that the notional ESO would be lower rated than the current actual ESO. The ESO also proposed a 25bps addition to the indices to reflect a 'notional company adjustment', on the assumption that the notional ESO would be lower rated than the current actual ESO. We do not agree this would necessarily be the case given greater certainty now over the regulatory framework for the ESO and a significant reduction in certain ESO risk factors previously

[38] Set out in chapter 2 of the GDandT Draft Determinations Finance Annex

commented on by rating agencies. We therefore do not agree that this adjustment is required to appropriately reflect the expected debt costs of a notional ESO.

5.15 We agree that a tenor of 7yrs would represent a reasonable approximation of the debt likely to be appropriate for and available to the ESO given its asset base, size, scale and requirements. We also agree with the ESO that considering the asset swap margin published by Markit for the iBoxx bond indices would be a reasonable approximation of a floating rate bank margin. The asset swap margin published by Markit for their GBP indices represents a spread over the LIBOR swap curve, which is based on 6 month LIBOR.

5.16 The ESO suggested that although LIBOR could currently be used for forecasting purposes, that a SONIA based approach would be more appropriate for RIIO-2 as this would reflect the market standard for floating rate bank debt in RIIO-2, given the Bank of England and Financial Conduct Authority's intended transition from LIBOR to SONIA as the primary benchmark interest rate in the sterling market.

5.17 We agree that a debt allowance which references SONIA would be more appropriate given the transition away from LIBOR as the primary benchmark. However, it is not yet entirely clear how banks may adjust their lending margins when referencing SONIA rather than LIBOR in loans. We believe a reasonable assumption would be to consider the average differential between 6month LIBOR and overnight SONIA over the last 3 years and to adjust the iBoxx asset swap margin for this differential.

5.18 The ESO proposed using the average of 4 quarterly fixing dates for the floating rate but this could add complexity to the consideration of the appropriate spread to use because the iBoxx asset swap margin is with reference to 6 month rather than 3 month LIBOR.

<u>Finance consultation questions</u>

ESOQ25. Do you agree with our method for setting a debt allowance for the ESO?

An allowance for equity financing of the RAV

Background

5.19 In October 2019 we decided to set an equity allowance for the ESO by following the approach taken for the other sectors, including the three-step approach and equity indexation.[39]

5.20 In its December 2019 Business Plan submission the ESO used the assumption from August 2019 (cost of equity of 7.81%). Based on advice from Oxera[40], while referring to the SONI appeal to the CMA[41], the ESO did not propose alternatives. The ESO highlight a concern that its risk exposure may not correlate with RAV, and would not be remunerated under a RAV*WACC model.

Consultation position

5.21 For Step 1, we estimate the ESO's cost of equity. We publish alongside this ESO document a finance annex which explains our proposals for risk-free rates (-1.48%) and Total Market Returns (6.25% to 6.75%) which we propose to use when estimating the ESO's cost of equity. We refer stakeholders to the WACC allowance model, as published alongside this consultation, which is designed to implement equity (and debt) indexation for the ESO.

5.22 To complete our Step 1 analysis, we draw upon advice from CEPA with regards to the most applicable asset beta assumption. CEPA's report, published alongside these Draft Determinations, advises that an asset beta of 0.45 to 0.50 is appropriate for the ESO. Having considered the evidence, as explained in the rationale section below, we propose an asset beta of 0.45 for these Draft Determinations, which is consistent with a cost of equity of 5.28%, as shown Table 29 in below.

Table 29: Asset beta and notional equity beta (CPIH-real)

Component	Point	Ref	Source
Debt beta	0.125	A	Ofgem judgement
Asset beta	0.45	B	Ofgem judgement
Notional gearing	55%	C	Ofgem judgement

[39] https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=16
[40] https://www.nationalgrideso.com/document/153396/download
[41] https://www.gov.uk/cma-cases/energy-licence-modification-appeal-soni#background-documents

Notional Equity beta	0.85	D	D = [B - (C * A)] / (1 - C)
Risk-free	-1.48%	E	Bank of England, See Finance Annex
Total Market Return	6.5%	F	Ofgem judgement, See Finance Annex
CAPM-implied cost of equity	5.28%	G	G = E + D * (F – E)

5.23 For Step 2, we consider cross-checks on this CAPM-implied cost of equity. As presented in the finance annex (chapter 3), we find a general downward trajectory on equity costs and returns since 2014. However, at this stage we have not estimated or made an adjustment to reflect this observation. We explain our rationale below.

5.24 For Step 3, we consider whether the allowed return on equity should differ from the cost of equity. We propose, and explain our rationale below, to set allowed returns in line with the cost of equity estimate of 5.28%.

Rationale for consultation position

5.25 To estimate the ESO's cost of equity, we considered the systematic risk that ESO is exposed to in RIIO-2, including the risk-reduction policies we propose from RIIO-1. We highlight two material changes in terms of systematic risk as follows;

- the incentive regime is a much smaller proportion of RAV, with only £6m of downside exposure (approximately 4% of RIIO-2 notional equity[42]) compared to £30m of downside exposure during the majority RIIO-1 years (approximately 44% of RIIO-1 notional equity[43]).
- The ESO benefits from a cost pass-through policy[44] during RIIO-2, compared with cost exposure during RIIO-1 of 46.9%. This means that that ESO holds lower risk in RIIO-2, relative to RIIO-1, and relative to other RIIO-2 Licensees. In our view this change lowers systematic risk.

5.26 In terms of benchmarking the ESO's asset beta, we make the following observations on the CMA appeals for SONI and NATS (NERL);

- Regarding the SONI appeal, the CMA did not produce its own estimate of asset beta, but found instead that the UR's assumption of 0.6 was not wrong:

[42] £6m / £333m RIIO-2 RAV * (1-55% notional gearing)
[43] £30m / £173m RIIO-1 RAV * (1-60% notional gearing)
[44] For more detail on our cost regulation approach, including the incentives we propose to apply to the ESO's pass-through expenditure, please see Chapter 3.

we therefore believe that 0.6 may not reflect CMA's view, particularly for the ESO.[45] We also note that appellants relied on operational gearing as a mechanism for estimating SONI's asset beta. Given the ESO has a cost pass-through mechanism for RIIO-2, analysis on operational gearing, as deployed in the SONI case, becomes less relevant for inferring the ESO's asset beta.

- Regarding the NERL appeal, the provisional determination from the CMA implies an asset beta mid-point of approximately 0.57 (debt beta assumption of 0.05). However, equity investors in NERL are exposed to risks that equity investors in ESO are not, including volume risk and uncertain forecasts of market rates for debt and equity (because NERL's allowances do not update with market rates, unlike the ESO). We also note the CMA's presentation of asset betas in the NERL appeal, including values from CAA for NERL (0.46) and Heathrow (0.50)[46], and CMA's analysis of airport betas ranging from 0.45 to 0.65, including the relativity of each of these airports to NERL.[47]

5.27 We did not find Oxera's arguments or range for asset beta (0.60 to 0.65), persuasive. Given Oxera's finding that there does not seem to be a strong relationship between asset intensity and asset betas, it did not seem reliable to benchmark the ESO with the seven companies that Oxera identify.[48] Further, Oxera's analysis is sensitive to the qualitative risk characteristics chosen. For example, we note that five companies excluded by Oxera (National Grid plc, SSE plc, IG Group Holdings plc, Provident Financial plc and Telecom Plus plc), on the basis that they have fewer qualitative risk characteristics in common with ESO (five rather than six or more, which appears to be Oxera's cut-off for inclusion), have an asset beta range of 0.32 to 0.59. The mid-point of these values is 0.455.

5.28 Noting our asset beta analysis in the finance annex (for National Grid plc, SSE plc, United Utilities Group plc, Severn Trent plc and Pennon Group plc), and the advice from CEPA as published alongside this consultation, we believe it is reasonable to assume an asset beta for the ESO between 0.45 to 0.50. Further, we believe the lower end of this range of 0.45 is appropriate given our RIIO-2 framework design and the level of systematic risk exposure for ESO relative to comparators. Our judgement indicates that systematic risk for the ESO sits between network companies and NERL, and in our view closer to network companies than NERL. We

[45] https://assets.publishing.servicegov.uk/media/5a09a73ce5274a0ee5a1f189/soni-niaur-final-determination.pdf#page=191
[46] https://assets.publishing.servicegov.uk/media/5e7a2644d3bf7f52f7c871f3/Provisional_Findings_Report_-_NATS_-_CAA.pdf#page=145
[47] https://assets.publishing.servicegov.uk/media/5e7a2644d3bf7f52f7c871f3/Provisional_Findings_Report_-_NATS_-_CAA.pdf#page=162
[48] https://www.nationalgrideso.com/document/153396/download#page=13

also note CEPA's view that the evaluative nature of the ESO's cost and incentive regime could make it less likely that its exposure is systematic in nature.

5.29 We consider a relatively low-risk ESO will appeal to investors looking for low-risk equity investments, based on the Step 2 cross-checks we publish alongside this document in the finance annex. Our expectation therefore is of downward pressure on the Step 1 CAPM-implied estimate. However, given the uncertainty of the asset beta estimate, where we have already considered the impact of risk-reduction policies, we have not at this stage further refined the cost of equity estimate in Step 2. We remain open to views and refinements on this from stakeholders, alongside our view on asset beta.

5.30 For Step 3, we considered performance incentives for RIIO-2 and our proposed incentive scheme values, which translates to annual upside of £15m and downside of £6m (nominal prices). This asymmetry may infer an expectation that financial rewards are more likely than penalties under this proposed scheme, particularly over a five-year period. However, there are two reasons why we do not propose to make an adjustment to allowed returns on this basis. First, the RIIO-2 proposals are quite different from the RIIO-1 price control design, meaning there is a lack of comparable historical information to determine the right adjustment. Second, we see benefit in considering the asymmetry of the ESO package as a whole – we therefore consider further below the overall balance of asymmetry.

Finance consultation questions

ESOQ26. Do you have evidence to suggest the equity allowance should be higher or lower for the ESO?

Additional funding

Background

5.31 In October 2019, we decided to assess claims for additional funding by ESO with reference to seven risk categories[49], supplemented with three added tests for these categories.[50] This methodology reflected claims the ESO had made and our

[49] See August 2019: https://www.ofgem.gov.uk/system/files/docs/2019/08/riio-2_methodology_for_the_electricity_system_operator_-_decision_and_further_consultation.pdf#page=60
[50] https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=19

recognition that some risks, if confirmed, could instead be remunerated by specific funding, rather than an increase in the WACC allowance.

5.32 This methodology reflected the significance of the claims being made by the ESO for funding above the WACC*RAV allowance. We noted in August 2019 the ESO's estimate of £20.75m for this additional funding.[51] In the October 2019 decision we noted ESO's consultation response implied additional funding, based on a report from KPMG, of £32m-£39m.[52]

5.33 In December 2019, the ESO published its Business Plan, referring to similar estimation methods for its additional funding claim, arriving at a wider range than its previous submissions. The ESO concluded:

> *"Deciding a suitable level of additional revenue may be a matter of judgement, but we believe that it should not be zero. The minimum level to support a financeable proposition would be at least £13 million per annum, but evidence equally suggests it could be as high as £39 million."*[53]

5.34 In January 2020, a published report by the RIIO-2 Challenge Group (CG) addressed ESO's additional funding claims, concluding:

> *"It [ESO] made a case, which we did not find very convincing, for additional annual payments (however structured) of between £13 million and £35 million to ensure its financial viability, despite a proposed Cost of Equity allowance which is over 50% higher than that for the other companies. We do not think that even the residual uncertainty resulting from the outstanding issues in relation to the scope of the ESO's responsibilities (particular the collection of TNUoS, which will affect its risk profile and the ratings it is likely to be accorded by the rating agencies) warrants the very negative view which it appears to take of its financial viability. We consider very*

[51] https://www.ofgem.gov.uk/system/files/docs/2019/08/riio-2_methodology_for_the_electricity_system_operator_-_decision_and_further_consultation.pdf#page=26
[52] See paragraphs 2.37, 2.38 and 2.39 from October 2019: https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=18
[53] https://www.nationalgrideso.com/document/158076/download#page=42

careful consideration would need to be given to any 'additional annual payment' (or change to the Cost of Capital allowance)."[54]

Consultation position

5.35 In light of our risk reduction measures for RIIO-2 and our view on the claims made, as set out below, we propose additional funding of £1.9m (nominal prices) per year for the ESO.

Rationale for consultation position

5.36 On 18 December 2019, we published a consultation proposing a change to the ESO's framework for RIIO-2.[55] We proposed that, rather than the ESO paying onshore TOs the revenues that the onshore TOs had notified, ESO should instead pay onshore TOs the TNUoS revenues it has billed suppliers and generators, net of the payments due to the OFTOs and other parties. We explained that this arrangement would be more efficient overall, and that the onshore TOs are a more natural and economical owner of cash flow timing risk exposure.

5.37 The ESO's Business Plan, dated 9th December 2019, assumes that the ESO would continue to bear this risk, hence contributing to its additional funding claims. However, reflecting the August 2019 consultation that this change was possible, the ESO's Business Plan also estimates that its Working Capital Facility (WCF) requirements would, as a result of the change, reduce by £300m (from its proposed provision of £550m).[56]

5.38 Given our decision to proceed with this change, as published alongside these Draft Determinations, our Draft Determinations for the ESO are on a materially different basis than the ESO's Business Plan, with regards to the necessary capital and additional funding that the ESO sought.

5.39 We have also sought to optimise other elements of the ESO's risk framework, reflecting its asymmetric risk claims. As discussed in chapters 2 and 4, we propose the following risk reduction policies for the ESO:

[54] https://www.ofgem.gov.uk/system/files/docs/2020/01/riio-2_challenge_group_independent_report_for_ofgem_on_riio-2_business_plans.pdf#page=54
[55] https://www.ofgem.gov.uk/system/files/docs/2019/12/tnuos_cash flow_timing_consultation_002.pdf#page=5
[56] https://www.nationalgrideso.com/document/158076/download#page=18

- A cap on annual totex disallowance risk equal to 10% of RAV; and
- The removal of Black Start cost disallowance risk, with these costs instead incentivised through our incentive scheme[57]

5.40 These changes, and our additional guidance on disallowance risk, bring the ESO's disallowance risk into line with other RIIO-2 Licensees.

5.41 We also considered asymmetric risk on an overall basis and concluded that, given our RIIO-2 proposals, we could not see a clear difference in asymmetric risk when benchmarking the ESO with SONI, NERL and other RIIO-2 Licensees. We agree that the ESO faces downside risk for cost disallowance (of up to 10% RAV under our RIIO-2 risk-reduction proposal) and for licence-based fines (up to 10% BSUoS revenues). However, offsetting this downside asymmetry, we propose an incentive range for the ESO that is much larger on the upside than the downside (translating to +£15m to -£6m per year, nominal prices).

5.42 Further, we note that cost disallowance risk is limited to internal costs only, as per our published Regulatory Instructions and Guidance.[58] We recognise there may be a perception that a breach of the 10% disallowance cap is more likely for the ESO, given its totex:RAV ratio. However, we do not consider this to be a sufficiently material factor for additional funding given the low probability nature of these risks, compared to an explicit and regularly scheduled incentive mechanism. Similarly, we consider the risk of enforcement penalties as low risk, and we note that our regulatory decisions must have regard to the need to ensure that the ESO is able to finance its obligated activities.

5.43 We sought advice from consultants, CEPA, on the overall RIIO-2 framework for the ESO, including on additional funding claims and non-RAV risks. CEPA's work re-enforces our view in the following respects, by highlighting:

- ESO's incentive asymmetry, given proposals for RIIO-2, is approximately three times larger on the upside (approximately +5% of RAV) than the downside (-2% of RAV), is comparable with NERL's incentive asymmetry which is approximately three times larger on the downside (-1.5% of RAV)

[57] As discussed in Chapter 2 and 3, we propose that Black Start cost would be included in an overall balancing costs metric. Black Start cost performance would therefore be considered as one of several factors in performance for one Role 1, which has a maximum downside risk of -£4m over two years, or -£2m per year.
[58] See here for example: https://www.ofgem.gov.uk/system/files/docs/2019/03/2018-19_riio-t1_electricity_transmission_rigs_v6.1_0.pdf where Appendix 2, paragraph 1.8 confirms Totex excludes "any costs relating to the SO for external purposes" and paragraph 1.15, which confirms Ofgem's option to disallow costs.

than upside (+0.4% of RAV).[59] The CMA considered NERL's asymmetry in its provisional determination and concluded that there was no evidence that the net effect of the price control was asymmetric in favour of NERL or against NERL[60]

- ESO's proposed Working Capital Facility (WCF) may be oversized as it appears to cover 99.99%, rather than say 99.00%, of potential cash shortfalls.[61] Subject to further information from the ESO, it is therefore possible that our proposed additional funding is high, as our estimate of the revenue collection role is based in part on the ESO's RIIO-1 WCF.

5.44 Our risk-assessment methodology, using the seven risk categories[62] and the three tests[63] from August 2019, is reflected at Appendix 5.

Finance consultation question

ESOQ27. Do you agree that our proposals for additional funding reflect the ESO's role during RIIO-2?

Revenue collection, financial resources and the working capital facility (WCF)

Background

5.45 In October 2019, we agreed with the ESO that not all costs associated with the revenue collection role could be covered via a WCF pass-through. We also confirmed that we would confirm at Draft Determinations how any associated funding would be provided, whether through an allowance or in part on a pass-through basis.[64]

[59] See table 4.1 in the CEPA report, "RIIO-2: Electricity System Operator Returns".
[60] https://assets.publishing.servicegov.uk/media/5e7a2644d3bf7f52f7c871f3/Provisional_Findings_Report_-_NATS_-_CAA.pdf#page=210
[61] See box 1 in the CEPA report, "RIIO-2: Electricity System Operator Returns".
[62] https://www.ofgem.gov.uk/system/files/docs/2019/08/riio-2_methodology_for_the_electricity_system_operator_-_decision_and_further_consultation.pdf#page=60
[63] https://www.ofgem.gov.uk/system/files/docs/2019/08/riio-2_methodology_for_the_electricity_system_operator_-_decision_and_further_consultation.pdf#page=25
[64] https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=28

Consultation position

5.46 Within our assessment of additional funding, we captured the need for, and cost of, a WCF, in light of ESO's changing revenue collection role. Within the additional funding proposal, we imply an allowance of approximately £0.6m per year (nominal prices) for WCF costs. Our proposal is based on CEPA's advice on the ESO's revenue collection role during RIIO-2 with reduced TNUoS cash flow risk.

5.47 We propose not to adjust this allowance ex-post.

Rationale for consultation position

5.48 We recognise that WCF costs could differ from our ex-ante estimate. However, we anticipate that any deviation is likely to be small and that the overall additional funding allowance will be able to accommodate any changes. We therefore do not see material benefit from ex-post updates, particularly given the notional ESO may differ from the actual ESO. Splitting the overall funding for revenue collection between unobservable costs (such as interest rate risk) and observable costs (such as the WCF fees), would create complexity in the arrangements.

5.49 Nevertheless, given the recent experience with Covid-19 and ongoing thinking about the design of BSUoS charges, we welcome views on whether a form of uncertainty mechanism or different funding approach would be appropriate to account for situations within RIIO-2 where there is a clear need for material changes (discussed further in Chapter 7).

Finance consultation questions

ESOQ28. Do you have a strong view on how the ESO should recover its costs for a WCF or whether the implied allowance is sufficiently accurate for the full RIIO-2 period?

Financeability

Background

5.50 In August 2019, we proposed a list of financeability metrics for the ESO, noting the approach would be similar to other RIIO-2 Licensees.[65] We also welcomed views from the ESO on how it intends to satisfy its licence conditions with regards to financial resources, financial facilities and maintaining an investment grade credit rating.

5.51 In October 2019, we decided to use the metrics we proposed in August, and to supplement these with three additional equity ratios.[66] We explained that we were not persuaded to use the metrics the ESO proposed, such as dividend cover and Earnings before Interest and Taxes (EBIT) margins.

5.52 In its analysis, the ESO found both the actual and notional company to be debt financeable under Ofgem's working assumptions, displaying a Moody's scorecard of A1 or A2.[67] However, referring to dividend cover and EBIT margins primarily, the ESO argued that credit metrics indicate a lack of equity investor offering.

Consultation position

5.53 We agree with the ESO that financeability tests indicate strong credit worthiness. Using updated inputs, we also find a Moody's scorecard-implied rating of A1. We therefore consider the ESO a financeable proposition for RIIO-2 and propose a 55% notional gearing level for RIIO-2.

Rationale for consultation position

5.54 We note that Moody's credit opinion for the actual ESO shows three downward notches, primarily to reflect liquidity risk, from scorecard level of A1 to Baa1. Although we have been unable to replicate Moody's subjective liquidity adjustment, we anticipate that if liquidity risk halves, as a result of significant de-risking of revenue collection duties for example, it could be assumed that the respective downward notching would also halve. On this logic, the notional

[65] https://www.ofgem.gov.uk/system/files/docs/2019/08/riio-2_methodology_for_the_electricity_system_operator_-_decision_and_further_consultation.pdf#page=28
[66] https://www.ofgem.gov.uk/system/files/docs/2019/10/riio-2_financial_methodology_and_roles_framework_for_the_eso_0.pdf#page=22
[67] https://www.nationalgrideso.com/document/158076/download#page=31

company rating would also benefit by the same amount, as a result of liquidity improvements.

5.55 ESO's Business Plan does not provide persuasive evidence that we should rely on dividend cover or EBIT margins when assessing financeability. The concept of equity financeability appears to lack a clear basis. In the ESO's view:

> *"Additional remuneration is the only lever that achieves thresholds without compromising alignment with regulatory principles, while enabling the ambitious, proactive and agile ESO stakeholders are looking for."*

5.56 This therefore means that equity financeability is, in ESO's view, generally inseparable from its additional funding claims. We therefore consider additional funding on its own merits, rather than in the context of equity financeability, as discussed in the previous sections.

5.57 The definition of the EBIT margin used by the ESO has a number of weaknesses. For example, ESO included depreciation in the denominator but not in the numerator, hence implying a margin of £7.3m is due on that element of allowed revenue, given the margin target (10%) and depreciation allowance in the notional base case Business Plan (£73m). Also, three extra sources of earnings should be included: time value of money; additional funding; and incentive revenue. Including those sources of earnings, or excluding depreciation from the denominator, can yield a 10% EBIT margin, in line with ESO's request.

5.58 We publish alongside this document the ESO Licence Model and the relevant debt and equity ratios, as per our October 2019 decision. We also refer stakeholders to CEPA's work on ESO's financeability, with relevant considerations of its liquidity position. Both documents support our view that the proposed funding and financing arrangements allow the ESO to efficiently finance its activities.

<u>Finance consultation questions</u>

ESOQ29. Do you agree that our proposed funding and financing arrangements allow the ESO to efficiently finance its activities?

Other finance issues

5.59 Please see the Finance Annex for other areas of finance applicable to the ESO. In that document, we make proposals and ask consultation questions that are also relevant to the ESO. Table 30 provides a summary of finance policies, including a comparison between the ESO other sectors.

5.60 We have published as technical annexes to the Finance Annex, the ESO Licence Model and the relevant debt and equity ratios as per our October 2019 decision, alongside the advice from CEPA on the ESO.[68] We also refer stakeholders to CEPA's work on ESO's financeability, with relevant considerations of its liquidity position. Both documents support our view that the proposed funding and financing arrangements allow the ESO to efficiently finance its activities.

Table 30: Summary ESO finance proposals relative to proposals for Transmission and Gas Distribution

<table>
<tr><th>Finance Area</th><th>ESO</th><th>Transmission and Gas distribution</th></tr>
<tr><td>Debt, equity and financeability</td><td colspan="2">Our policy approach is broadly consistent across the sectors although we consider the uniqueness of the ESO, as set out above. The finance annex sets out further relevant detail for the ESO including on debt and equity indexation.</td></tr>
<tr><td>Additional funding</td><td colspan="2">We focus on ESO claims in this document and make a unique proposal that reflects the ESO distinct Business Plan submission. Licensees in other sectors did not, in their Business Plan submissions, emphasise the need for additional funding in a similar way.</td></tr>
<tr><td>Regulatory depreciation rates</td><td>We propose that asset life remains at 7 years for the whole of RIIO-2</td><td rowspan="3">We propose a policy approach for the RIIO-2 cycle (5-years)</td></tr>
<tr><td>Capitalisation rates</td><td>We propose that for each year of the RIIO-2 cycle this reflects the share of agreed capex</td></tr>
<tr><td>Directly Remunerated Services</td><td>We propose a review of our approach in line with the ESO's 2 year business cycle</td></tr>
<tr><td>Return Adjustment Mechanism</td><td colspan="2">We propose a RAM for Transmission and Gas Distribution Licensees, but not for the ESO. A RAM is unnecessary for the ESO given our incentive proposals limit annual upside and downside.</td></tr>
</table>

[68] The ESO Licence Model published alongside this document has very minor inconsistencies with this document in relation to the assumed level of operating costs. The inconsistencies are around £2m pa and we do not consider that they have a material impact upon our analysis of the ESO's financeability or the other proposals set out in this document

Financial resilience	We do not propose sector specific policies for these finance policy areas. However, we welcome views from stakeholders on these issues, including any areas where we should deploy a distinct approach to the ESO.
Corporation tax	
Indexation of RAV and calculation of allowed returns	
RAV opening balances	
RIIO-1 Close-out	
Amounts recovered from the disposal of assets	
Dividend Yield assumption	
Notional equity issuance costs	
Pension scheme established deficit funding	
Annual Iteration Process	
Transparency through RIIO-2 reporting	
Bad debts	

6. Innovation

6.1 The SSMD and the Core Document identify the criteria that we have used to assess Network Innovation Allowance (NIA) funding requests. The Core Document also details our proposals for the RIIO-2 NIA Framework and the Strategic Innovation Fund.

Network Innovation Allowance

6.2 We set out below our Draft Determinations on ESO's RIIO-2 NIA funding.

Consultation position

Table 31: ESO NIA proposals

Network Innovation Allowance	Company proposal	Consultation position	Applicable period
Level of NIA funding	£45m for 2021/22-2025/26	£7.2m for 2021/22-2022/23 • ESO-led NIA projects must involve partnership with other network companies, third party innovators and/or academics. • Conditional on an improved industry-led reporting framework.	BP1

Rationale for consultation position

6.3 The ESO's Business Plan contained proposals for a range of NIA-related proposals. It focused on the energy system transition and corresponded to four innovation themes:

- Ensuring reliable, secure system operation to deliver electricity when consumers need it.
- Transforming participation in smart and sustainable markets.
- Unlocking consumer value through competition.
- Driving towards a sustainable, whole energy future.

6.4 The ESO requested £45m NIA funding over the 2021-2026 RIIO-2 period. This request was broken down for five years, as detailed in Table 32 below.

Table 32: ESO's NIA funding request 2021-2026

Year	21/22	22/23	23/24	24/25	25/26
Allowance	2.7	4.5	11.7	12.6	13.5

6.5 We consider that wider proposals for the ESO price control, such as the cost-pass through approach, provides greater flexibility for innovation to be taken forward by the ESO. However, the ESO's NIA proposals focus on initiatives that appear either high risk, or would not deliver benefits during the price control period. Based on this, we have reasonable confidence that projects that will be taken forward will require the NIA in order to progress. Over RIIO-2, it is for the ESO to determine which projects it will undertake and, for each, it will need to demonstrate why the project cannot be funded through totex funding, why it needs to be funded via the NIA and how it supports the energy system transition or addresses consumer vulnerability. This will be part of the RIIO-2 NIA governance arrangements.

6.6 Our assessment of the ESO's Business Plan against the criteria from the SSMD and the Core Document in the table below.

Table 33: Assessment of the ESO's Business Plan against NIA criteria

SSMD /Core NIA criteria	Ofgem view
Undertaking other innovation as BAU	**Satisfactorily meets the criterion including:** evidence of plans for innovation within BAU for each of the above innovation themes. We also agree with the RIIO-2 Challenge Group recognition of innovation in its Business Plan as the ESO clearly illustrated plans for innovation throughout their plan.
Application of best practices	**Satisfactorily meets the criterion including:** evidence of the established governance procedures for innovation projects and consideration of best practice.
Processes in place to rollout proven innovation and the evidence that this is already happening	**Satisfactorily meets the criterion including**: clear illustration how the plan builds upon past innovation with evidence of key learnings from RIIO-1 innovation and examples of projects which have been rolled out.
Processes in place to monitor, report and track innovation spending and the evidence that this is already happening	**Does not satisfactorily meet the criterion:** consistent with our assessment of all NIA requests, we do not consider that the ESO has demonstrated that it has tried and tested processes in place to monitor, report and track innovation spending and benefits.

6.7 Additionally, and consistent with feedback from the ERSG, we consider that the unique position of the ESO means that the ESO must do more to consider the innovation challenges and strategic direction of industry as a whole, and demonstrate stronger partnership with academics and wider industry. Accordingly we propose that the all the ESO's NIA funded innovation projects must involve partnership with other network companies, third party innovators and/or academics.

6.8 We consider the level of NIA funding that the ESO requested for 2021/22 and 2022/23 is proportionate. We have not sought to compare ESO's NIA funding with the funding it received in RIIO-1 as its RIIO-1 NIA funding was linked to NGET's base revenue, both before and after separation. However, we appreciate that its RIIO-2 request is relatively larger as a percentage of totex than other network companies. Many of the ESO's innovation activities do not deliver benefits to the ESO's internal costs, but instead deliver benefits to wider balancing costs controlled by the ESO, which are over £1bn each year.

6.9 We are not making a determination on an ESO Business Plan for the period beyond March 2023. As such, we do not think it appropriate to determine the ESO's NIA funding for 2023/24, 2024/25 and 2025/26, as the funding request for these years is substantial and we believe this request would be more appropriately considered alongside the ESO's future Business Plans.

6.10 As detailed in the Core Document, we propose that all NIA funding is conditional on the implementation by the start of RIIO-2 of an improved, industry-led reporting framework. If this condition is not satisfied, our proposal is that we will not award NIA funding for RIIO-2.

<u>Innovation consultation questions</u>

ESOQ30. Do you agree with the level of proposed NIA funding for ESO? If not please outline why.

ESOQ31. Do you agree that ESO's NIA funding should be subject to the condition that all projects must involve partnership with other network companies, third party innovators and/or academics?

7. Uncertainty

Approach to uncertainty

Background

7.1 In our core document we set out four types of mechanisms for dealing with uncertainty throughout the RIIO-2 price control: volume drivers; re-opener mechanisms; pass-through mechanisms; and indexation. These measures are more applicable to the network companies' price controls who have a more mechanistic price control design and five-year Business Plans. We did not include any volume drivers or re-openers for costs within our SSMD for the ESO given our decisions to introduce a shorter, two-year Business Plan period and not to apply Totex Incentive Mechanism.

Consultation Position

7.2 Our proposed approach to uncertainty for different elements of the ESO's RIIO-2 price control is set out in Table 34.

Table 34: Approach to uncertainty

Area	Approach to uncertainty
Outputs	
Delivery Schedule and grading	Resubmitted and assessed every two years alongside the ESO's Business Plan as default. We will consider the need to reassess deliverables within the Business Plan period where there are material changes to the ESO's roles and responsibilities.
Performance measures	Set every two years as a default. The exception is the balancing costs metric where we propose to consider adjustments to benchmarks on an annual basis, where there is evidence of material changes to the electricity market or network that make historical trends unreliable. If the ESO's performance deviates from its performance benchmarks for reasons outside of its control, it can report this to us through its regular incentives reports and this will be taken into account in the incentives decision.
Costs	
Incentive cost benchmark	We have only set a cost benchmark for two years, and will reset it for the next ESO Business Plan. As set out in Chapter 4, we intend to review and update our cost benchmark every six months to account for uncertainty in the ESO's IT expenditure. Where necessary, we will also update the benchmark to reflect any material changes to ESO roles or responsibilities during BP1.

	If the ESO's expenditure significantly deviates from this benchmark for reasons outside of its control, it can report this to us through its regular incentives reports. There is no automatic reward/penalty for under or overspend against the benchmark. We are not applying any indexation or real price effects (RPEs) on the incentive cost benchmark.
Non Activity Based costs	Licence Fee payments, Business rate payments and costs associated with the Inter-Transmission System Operator Compensation (ITC) mechanism will continue to be recovered via a pass-through mechanism and will not be part of the incentives benchmark.
Finance	
Financial allowances (WACC, additional funding)	The ESO's return on capital, including its allowance for debt financing and equity financing is proposed for the full five-year RIIO-2 period. Should the ESO's risk framework materially change then the allowed return on capital will be re-considered. Within these methodologies are indexation measures to account for changing market rates. Please see Table 30 of this document and the Finance Annex for more information. The ESO's additional funding is proposed for the full five-year RIIO-2 period. We propose to only adjust this parameter in the situation there are material changes to the ESO's roles or responsibilities that significantly alter its risk profile.
Other finance issues	Other financial elements of the price control are discussed in the Finance annex (see Table 30 of this document for more information).

7.3 We note that our RIIO-2 proposals are based on the current governance framework for the gas and electricity system operators. In February 2020, we announced an accelerated and expanded review of GB system operation. This review will provide the government with advice on whether we have the right governance framework in place to deliver the UK's net zero emissions target at lowest cost to consumers. If this review (or any subsequent review) results in the government deciding to make changes to the current model for system operators, then we may need to reconsider the suitability and effectiveness of RIIO-2 price control arrangements for any affected companies, which could lead to key parameters of the settlement being adapted.

Rationale for Consultation Position

7.4 One of our key considerations in the design of the ESO's RIIO-2 price control is that it is sufficiently flexible to allow it to adapt to changing priorities in the rapidly

evolving energy system. We do not believe any explicit volumes drivers, re-openers or indexation of cost benchmarks are needed because:

- A two-year Business Plan period acts in a similar manner to a re-opener and means costs and outputs are regularly reset;
- The lack of a totex incentive for the ESO reduces the ESO's exposure to cost uncertainty, and enables it to spend efficiently, wherever necessary without financial penalties;
- Our incentives scheme design, which considers both outputs and value for money, is designed to account for the influence of external factors;
- We have set out a process to update our incentives cost benchmark to account for uncertainty in the ESO's IT expenditure.

7.5 Nevertheless, as highlighted in Table 34, we are proposing to consider adjustments to the price control when there are material changes to the ESO's roles or responsibilities. At this point we are aware of the following developments that may merit reconsideration of specific parameters within BP1:

- We requested that the Electricity System Operator (ESO) develop an Early Competition Plan[69]. Following our review of this plan, we may decide to introduce new responsibilities for the ESO. This could merit changes in the ESO's cost benchmark, Delivery Schedule and performance measures.
- Similarly, we are exploring, with government and industry, options for a more coordinated offshore transmission system. It is possible that this may result in changes the ESO's responsibilities.
- The Balancing Services Use of System (BSUoS) charging task force[70] is currently reviewing the BSUoS charging arrangements and is due to report conclusions year. If this results in any substantial changes to the ESO's revenue collection risks, then we may need to review whether the current proposed level of additional funding appropriately reflects the risks the ESO is exposed to and the costs of a suitably sized working capital facility.

7.6 We will closely monitor ongoing work on early competition, offshore coordination and BSUoS charging. At Final Determinations, where appropriate, we will set out

[69] https://www.ofgem.gov.uk/publications-and-updates/electricity-system-operator-s-early-competition-plan-letter

[70] https://www.ofgem.gov.uk/system/files/docs/2019/11/open_letter_on_the_balancing_services_charges_taskforce.pdf

further details on whether and when we consider any future adjustments may be needed to the price control in light of these developments.

7.7 We welcome stakeholder views on whether our current price control design is sufficiently flexible to account for uncertainty. In particular, we welcome views on whether a different funding approach, or a more precisely defined uncertainty mechanism, may be needed for the ESO's revenue collection role. This could include, for example:

- A re-opener to the ESO's additional funding allowance, triggered by the ESO and/or Ofgem in response to material changes to the revenue collection role;
- Treating certain revenue collection costs (eg WCF fees) in a similar manner to other ESO costs (ie passed-through but subject to the broader value for money incentives);
- Recovering certain revenue collection costs (eg WCF fees) through a full pass-through mechanism (ie not subject to any incentives).

Uncertainty consultation questions

ESOQ32. Do you believe our price control design is sufficiently flexible to account for uncertainty? Are there any relevant foreseeable future uncertainties which we have not identified here?

ESOQ33. Do you have any views on whether we should introduce a different funding approach or uncertainty mechanism to account for the risk of material changes to the ESO's revenue collection role? Do you have any views on how this should be designed?

8. Other cross-cutting issues

Introduction

8.1 This section sets our positions on four issues that are relevant to multiple sections in this document:

- the governance of the ESO's IT
- how the ESO will recover its revenues
- its regulatory reporting
- arrangements for the next Business Plan.

Table 35: Proposals for other cross-cutting issues

Area	Proposals
Governance of ESO IT	ESO to develop a plan for full IT separation from National Grid Group by April 2023
Cost recovery	Introduce a more flexible and transparent approach to the ESO's recovery of internal costs and rationalise existing licence terms.
Regulatory reporting	Rationalise RIIO-1 requirements.
Next Business Plan	Reduced timelines for the second Business Plan, reflecting the need to consider learnings from BP1

Governance of ESO IT

Background

8.2 In April 2019, the ESO became a separate entity from NGET. As part of the separation, it was agreed that some functions could continue to be provided by National Grid Group to the ESO (and other subsidiaries of the National Grid Group) as a shared service. As we move into RIIO-2 we need to ensure that those shared services are still appropriate for the ESO.

8.3 In its first Business Plan, the ESO proposed spending £290.6m on shared IT opex and capex. This forms 56% of the total funding request. In practice 'shared IT' means that IT services are provided by National Grid Group or contracted out by them. The ESO's Business Plan was developed on this assumption and did not explore any alternative approaches.

8.4 Stakeholders have raised concerns regarding the shared nature of the proposed IT costs. The ESRG emphasised the need for IT expertise, capability and intellectual property to be retained as part of the ESO and not by external providers or held within National Grid Group[71]. The RIIO-2 Challenge Group noted that the IT relationship with the National Grid Group could constrain the ESO's ability to deliver its planned IT solutions[72].

8.5 Ofgem met with the ESO and the IT leadership of National Grid Group following the submission of the final Business Plans to discuss the concerns industry and we had with the proposed arrangements and to consider alternative options. During that meeting, four IT delivery models were outlined by the IT leadership of National Grid Group. These ranged from the current shared service model to a fully independent ESO IT model.

Consultation position

8.6 We are currently of the view that the ESO should operate with a separate, autonomous ESO IT model, so as to achieve full independent control of ESO IT, and that this should take place by 1 April 2023.

8.7 We recognise that the ESO's Business Plan assumed a high level of shared IT and we have started to seek further information from the ESO on this. In order to provide the information necessary to reach a Final Determinations and then to implement change, we expect the ESO to respond to this consultation. In addition to the questions at the end of this section, the ESO should:

- At a minimum - set out how the ESO could take on full independent control of its IT by 2023. This should include a plan for full IT separation from National Grid Group and outline what milestones must be achieved during the process to full IT separation **by 1 April 2023**. These milestones should have associated dates and timeframes as well as including any costs involved in achieving them.
- If the ESO believes there are variations on this timeline which are materially more beneficial to consumers, the ESO is invited to set these out.

[71] Page 42 of The Electricity RIIO2 Stakeholder Group's (ERSG) Report on National Grid ESO's Business Plan - https://www.nationalgrideso.com/document/159491/download
[72] Page 86 of RIIO-2 CHALLENGE GROUP INDEPENDENT REPORT FOR OFGEM ON RIIO-2 BUSINESS PLANS 24 January 2020 - https://www.ofgem.gov.uk/system/files/docs/2020/01/riio-2_challenge_group_independent_report_for_ofgem_on_riio-2_business_plans.pdf

- If the ESO believes that there are alternative solutions to address the concerns identified with ESO shared IT arrangements, the ESO may also set out alternative end-states and plans to achieve those alternatives, including milestones, overall timeframes and costs. If alternative options are provided, the ESO should provide a clear assessment of the different options and how they will address the concerns identified with the current shared model.

8.8 In order for this to progress in a timely manner we ask that the ESO submits an initial plan by the end of the consultation period and a final plan by 9 October 2020.

Rationale for consultation position

8.9 We considered the four models (including status quo) proposed by the ESO and National Grid Group against our concerns around accountability, independence free from conflicts of interest, control and capability. Based on the evidence provided, we see a strong case to move from the current model:

- **Accountability:** The ESO is held accountable for its performance through its incentive framework and under its licence. Given the central role of IT in ESO performance, this accountability should extend to IT delivery. Given the nature of the existing shared services model, ESO has limited ability to manage IT delivery performance but the risk of underperformance is borne by ESO (via incentive scheme) or the Consumer (via inefficient spend). The ESO is limited in its ability to hold Group IT to account for underperformance.
- **Independence:** The ESO's Business Plan states that its mission is to become a trusted partner of industry, consumers and society. In order to be trusted as a partner, there needs to be no conflicts of interest – real or perceived. The current IT set-up may give rise to such concerns.
- **Control:** In order to be held accountable, the ESO must be able to fully control IT delivery decisions. Under the current Shared Services model, the ESO lacks direct oversight and control over its IT delivery and cannot dictate the level of IT resource it has available. This is unacceptable given the size of the IT investment being proposed and the importance of this investment to ESO and industry success during RIIO2.
- **Capability:** The ESO Business Plan sets out a transformational path for the ESO to become an IT technology-dependent business. It is not clear how the ESO will build the capability, capacity and skills to deliver that transformation if the delivery is all provided from outside of the ESO business.

8.10 With the RIIO-2 Business Plan proposing significant investment in new IT systems and large-scale overhaul of existing systems, this is an efficient and cost effective time to implement ESO IT autonomy. A number of projects are planned to be scoped from April 2021. By signalling the need for IT autonomy at the start of RIIO-2, we build separation into that scoping. Separating at a later date would likely require significant additional work to unpick newly created systems.

8.11 Based on the evidence the ESO and National Grid Group provided, we consider that only the fully independent IT delivery model mitigates all of the issues with the current model. All of the other options proposed so far were variations on artificial splits in leadership or ownership that did not fully address the concerns noted above.

8.12 We are aware that this model is a significant departure from the model proposed by the ESO in its RIIO-2 Business Plan. The ESO has indicated that it believes there to be alternative models than the four presented to date, that may come with fewer costs and a lower level of delivery risk. We will fully assess all options the ESO may choose to propose, looking at the costs and relative consumer benefits associated with each option.

8.13 The ESO's RIIO-2 framework is based on 2-yearly Business Planning cycles with the ESO's next Business Plan to start from 2023. Aligning changes to the IT model with the wider Business Planning cycle should provide consistency and support effective Business Planning. Therefore, we propose that the ESO implements its new autonomous IT model from the beginning of the 2023-25 Business Plan period, so that this permanent approach may be reflected in the next Business Plan.

<u>Other areas consultation questions</u>

ESOQ34. Do you agree with our assessment that the current approach, with the ESO's IT provided by National Grid Group is not appropriate for the future? Have we identified the correct concerns with the current model?

ESOQ35. Do you agree that the ESO needs full control of its IT provision? Are there other options that you think are preferable?

ESOQ36. Do you have a view on the proposed timing of implementing IT autonomy?

Cost recovery

Background

8.14 The ESO predominantly recovers its costs through Balancing System Use of System (BSUoS) charges. Costs recovered through BSUoS can be categorised as internal costs and external costs. It also currently recovers some other costs, including innovation costs and pass-through items, through Transmission Network Use of System (TNUoS) charges. An overview of how ESO costs are recovered during RIIO-1 is in Table 36.

Table 36: Recovery method of ESO costs during RIIO-1

Revenue category	Cost included	RIIO-1 Charge	RIIO-1 recovery method
Internal costs	Costs the ESO recovers for the business of operating the system.	BSUoS	Annual allowance determined at the start of the price control, with any under/over spend against this allowance adjusted in future years with a two-year lag.
External costs	Balancing costs: payments made to balancing service providers to procure and use balancing services.	BSUoS	Based on costs incurred within the year. Adjusted by the ESO throughout the year.
	Incentive payments or penalties	BSUoS	Recovered by the ESO within-year based on its forecast performance. Allowed revenues for the following year are then adjusted to account for any differences between forecast and actual performance for the previous year.
	SO-TO costs: payments made to TOs for changes to outages or other commercial services.	BSUoS	A fixed annual allowance in the licence. Where the ESO spends less or more than allowance by more than a certain threshold (£300k), it must submit an 'outage cost adjusting event' to Ofgem for approval.
Innovation	Network Innovation Allowance	TNUoS	Use it or lose it allowance, recovered based on actual expenditure up to the allowance value.
Pass-through items	Business rates, licence fees and inter-transmission system operator compensation (ITC) mechanism.	TNUoS	Based on actual costs incurred, on a two-year lag.

8.15 For all RIIO-2 companies, we are proposing changes to alter the annual iteration process (AIP) to consolidate reporting and increase transparency. These changes are outlined in the Finance Annex. In summary, these changes would mean that opening revenue allowances no longer need to be set out in the licence and allowed revenue for charge setting purposes would adjust each year to reflect any updates since the previous AIP.

8.16 Ofgem asked the ESO to launch a Balancing Services Charges Task Force[73] in November 2018, to provide analysis to support decisions on the future direction of BSUoS charges. As part of the final Targeted Charging Review decision, Ofgem asked the ESO to launch a Second Balancing Services Charges Task Force in November 2019 to build on the work of the previous Task Force. This work considered not only who should be liable for Balancing Services Charges but also how these charges should be recovered. The Taskforce was initially due to report before the end of June but was paused for three months because of the Covid-19 pandemic. The Taskforce restarted in July, with a view to publishing it final report by the end of September.

Consultation position

Changes to recovery methods

8.17 Further to the general changes proposed to the AIP process, we propose changing internal cost recovery for the ESO such that it recovers its internal costs in a manner similar to the way it recovers external balancing costs, based on its actual expenditure, recovered within the year.

8.18 We propose to change the recovery of SO-TO costs to make this more consistent with the recovery of other costs. The ESO would recover the actual costs it has incurred, up to a maximum cap. We propose this cap would be equivalent to the existing SO-TO cost allowances in the licence, plus the outage threshold amount (£300k). Ofgem would have the ability to direct a higher cap where the ESO can justify the need for this, following a similar process to the one currently set out in Special Condition 4J of the licence.

[73] http://www.chargingfutures.com/charging-reforms/task-forces/second-balancing-services-charges-task-force/what-is-the-second-balancing-services-charges-task-force/

Movement of licence condition terms

8.19 We propose classing incentive payments as internal costs as they no longer relate purely to the procurement and use of balancing services. This will move them from ESO Special Condition 4C (Balancing Services Activity Revenue Restriction) to ESO Special Condition 4A (Restriction of System Operator Internal Revenue).

8.20 We propose adding a term to Special Condition 4A to include NIA funding. This will mean the ESO's NIA is recovered via BSUoS. This funding will be capped over the two-year period at the values in Table 31 in Chapter 6.

8.21 We propose that certain ESO pass-through items (such as business rates), will be recovered via BSUoS rather than TNuoS. We welcome stakeholder views on whether other pass-through costs, such as licence fees and ITC, should be recovered via TNUOS or BSUOS and will consider this further as part of the licence drafting process.

Rationale for consultation position

Changes to recovery methods

8.22 As discussed in Chapter 4, there is considerable uncertainty with some the ESO's internal expenditure over the course of BP1 given the immaturity of its IT proposals. A fixed annual allowance (eg equivalent to the value of our cost benchmark in Table 23) would likely be an inaccurate representation of the actual costs the ESO incurs over this period. Continuing with the current approach to the recovery of internal costs would create the following risks and issues:

- Year on year volatility as potentially large adjustments are made to account for the differences between annual allowances and the ESO's actual expenditure, undermining the cost reflectivity of charges.
- A lack of transparency and increased complexity around the ESO's recorded revenues, spending and profits, potentially undermining wider scrutiny of these revenues.
- An overly onerous process to reset allowances at the two-year stage, following the submission of the second Business Plan (BP2), which could be particularly problematic given the condensed timescales for this process versus BP1 (see the end of this Chapter).
- Increased cash flow risk for the ESO through its need to carry debt or surplus funds for multiple periods.

- Potential for unintended consequences regarding when and how the ESO spends against its allowances.

8.23 We note that by not applying a totex incentive mechanism for the ESO, the need for a mechanistic approach to setting allowances in the licence has largely been removed. To ensure our funding model works as intended, it is important that the cost recovery arrangements do not restrict the ESO's ability to react to changing circumstances and adapt in response to emerging issues.

8.24 We are mindful that work is ongoing under the BSUoS task force to recommend the best approach to BSUoS charging. We will therefore consider these proposals alongside the emerging recommendations of the task force. We note that the ESO's internal costs are a small proportion of overall BSUoS charges and have less volatility than external costs. Moreover, the process we are proposing for additional, more regular reporting on internal costs (outlined in Chapter 4) should help create additional transparency on expenditure. This may mean a more flexible approach to internal cost recovery for the ESO could be compatible with proposals to introduce more predictable overall BSUoS charging arrangements. We would welcome industry feedback on this point, and on any measures of forecasting or internal costs transparency, which would be of value.

8.25 Treating SO-TO costs more consistently with other ESO costs will remove complexity and unnecessary burden from the framework. In particular, it will avoid the need to go through an allowance adjustment process for very minor deviations to external costs. It would also remove the scope for windfall gains and losses for the ESO where costs incurred are within the current outage threshold amount but not equal to the allowance. This proposal is not designed to change the SO-TO mechanism policy in any other way, the proposed change is solely to the method in which costs are recovered.

Movement of licence condition terms

8.26 The move to include the incentives value in the internal cost recovery condition reflects the evolution of the ESO incentives from a balancing cost incentive scheme to a more holistic performance incentive scheme. Now that the ESO incentives are not mechanically linked to the procurement and use of balancing services, its placement in the external cost condition is no longer appropriate.

8.27 Now that the ESO has a separate price control from NGET, a term needs to be included to allow the ESO to collect revenue associated with it NIA allowances. We

consider that as this is an ESO allowance, BSUoS is the most appropriate recovery method.

Other areas consultation questions

ESOQ37. Do you agree with our position that the ESO should recover its internal costs based on actual spend within year? Do you believe this change would create any new information/forecasting needs to allow industry to anticipate and manage this?

ESOQ38. Do you have views on whether the NIA and other ESO pass-through items should be recovered via TNUOS or BSUOS?

Regulatory reporting

Background

8.28 Under RIIO-1, the ESO has various different reporting requirements. This includes:

- Annual reports on the ESO's revenues, financial performance and its costs and outputs in Regulatory Reporting Packs (RRPs).
- Monthly, quarterly, bi-annually and annual reports on outputs relevant to its incentives.
- Various submissions covering the ESO's Data Assurance Guidance (DAG) activities, Black Start procurement and costs, EMR obligations and performance, innovation activity, and other obligated reports such separation compliance.

Consultation position

8.29 We will update the current reporting requirements in line with the proposals throughout this document. When doing so, we propose to streamline current reporting requirements and align them with the incentive reporting cycle, where appropriate. For example, we consider the existing RIIO-1 Costs and Outputs RRP could be merged (or better coordinated) with the incentive reporting requirements on costs and outputs set out in Chapter 3 and 4 respectively. We also intend to update the existing annual cost reporting requirements so that this better aligns with the ESO's Business Plan submission and Business Plan Data Template.

8.30 We have not identified any current reporting requirements that should be removed altogether. However, we welcome views on whether any rationalisation is needed to reporting requirements from RIIO-1 that stakeholders consider are redundant.

Rationale for consultation position

8.31 The existing RRPs were designed for NGET and for a different price control design. Further ESO specific reports have been incrementally added over the course of the price control which may overlap with some of the existing RRPs. It is therefore sensible to reconsider these requirements to ensure they make sense for the ESO, are streamlined with reporting requirements elsewhere and reduce unnecessary regulatory burden. We will consider in further detail how to rationalise the ESO's reporting requirements based on the feedback to this consultation.

Other areas consultation questions

ESOQ39. Where or how can the ESO's existing reporting requirements be streamlined?

Timings for the future Business Plans

Background

8.32 We currently expect that the ESO's second RIIO-2 Business Plan (BP2) will apply to the period from April 2023 to March 2025.[74] For BP2, the ESO will submit updated costs and outputs for us to assess and make determinations on.

Consultation position

8.33 For BP2, we propose a shorter timeline for the Business Plan production and determinations process, outlined in Table 37.

8.34 We expect the ESO's engagement with stakeholders throughout the course of BP1 to heavily shape the draft BP2. Stakeholders, the Performance Panel and Ofgem must have an appropriate period to comment in detail on the draft plan and the

[74] We note that the RIIO-2 price control last for five years. We will make a future decision on whether to continue with tow-year Business Plan or adopt a different timing based on our experience during the first part of BP1.

ESO must have time to make necessary changes before a final version is submitted

Table 37: BP2 timings

What	Timings
ESO publishes and consults on draft Business Plan	Early April 2022
ESO publishes final Business Plan	Early August 2022
Ofgem Draft Determinations	November 2022
Ofgem Final Determinations	March 2023

8.35 Our determinations would set out our grading of the ESO's Delivery Schedule for BP2, any changes to performance measures and our updated incentive costs benchmarks. We would also set out updated positions on any other parameters that are set every two years (such as capitalisation rates).

Rationale for consultation position

8.36 It is important that the process for BP2 allows sufficient time for learnings from BP1 to be taken into account. Additionally, we do not expect BP2 will need the same timescales as BP1 given the lack of detailed framework design and assessment of financing requirements (such as the appropriate return on capital). At the same time, given the addition of cost information, the Business Plan assessment process for BP2 is likely to need longer than the current Forward Plan process used for the existing RIIO-1 incentives scheme.

8.37 We think the timeframes suggested would strike a balance between allowing the ESO to reflect on learnings from the previous Business Plan period, while still allowing Ofgem and stakeholders to thoroughly asses the plans submitted.

Other areas consultation questions

ESOQ40. Do the proposed timings for the BP2 process provide sufficient time for the ESO to develop and refine a robust plan, stakeholders to contribute to this and Ofgem to undertake the necessary assessment and decision making?

Appendices

List of appendices

Appendix 1 – Consultation questions

This appendix lists the consultation questions in this document. For questions on other finance issues relevant to the ESO, please see the Finance Annex.

Incentives framework consultation questions

ESOQ1. Do you agree with our proposal to incorporate EMR into the ESO's wider outputs incentives scheme?

ESOQ2. Do you agree that it is appropriate to maintain the ring-fence between the EMR DB and the ESO in its current form?

ESOQ3. Do you agree we should regulate system restoration costs in a consistent manner to other external balancing costs?

ESOQ4. Do you agree with our approach to setting up-front performance expectations?

ESOQ5. Do you agree that a financial reward or penalty should be determined every two-years, to align with the period over which we set expectations, costs and outputs?

ESOQ6. Do you agree with our proposed approach to within-scheme feedback, including the timings and approach to performance panel sessions?

ESOQ7. Do you agree with our proposed evaluation criteria for RIIO-2?

ESOQ8. Do you agree with our proposals on the incentive scheme value?

Outputs consultation questions

ESOQ9. Do you think that our proposals will capture the full scope of minimum obligations/standards associated with the ESO's Business Plan activities?

ESOQ10. Do you agree with our proposed changes to the ESO Roles Framework guidance?

ESOQ11. Do you agree with our grading of the ESO's RIIO-2 aims and Delivery Schedule for 2021-23?

ESOQ12. What are the priorities for the ESO to achieve by March 2023 to exceed your expectations?

ESOQ13. Do you agree that these are the right performance metrics to assess ESO's performance?

ESOQ14. Do you agree that these benchmarks are sufficiently challenging?

ESOQ15. Do you have any comments on the revised methodologies we have proposed (in Appendix 3) for assessing ESO's performance on balancing costs and forecasting?

ESOQ16. Do you agree with our proposals for measuring stakeholder satisfaction?

ESOQ17. Do you agree with proposed approach to tracking plan benefits?

ESOQ18. Do you agree with our suggested areas for regularly reported evidence?

Costs consultation questions

ESOQ19. Do you agree with our overall approach to cost regulation for the ESO?

ESOQ20. Do you agree with our assessment of the ESO's totex?

ESOQ21. Do you agree with the method we have taken to set each role-specific cost benchmark, including the proportions of capex and business support allocated to each role?

ESOQ22. Do you agree with our proposed approach to updating the internal costs benchmark within the price control?

ESOQ23. Are our disallowance proposals proportionate and do they provide the ESO with sufficient ex ante certainty?

ESOQ24. Do our proposed changes to the reporting of changes to the ESO's shared services costs offer a sufficient level of consumer protection?

Finance consultation questions

ESOQ25. Do you agree with our method for setting a debt allowance for the ESO?

ESOQ26. Do you have evidence to suggest the equity allowance should be higher or lower for the ESO?

ESOQ27. Do you agree that our proposals for additional funding reflect the ESO's role during RIIO-2?

ESOQ28. Do you have a strong view on how the ESO should recover its costs for a WCF or whether the implied allowance is sufficiently accurate for the full RIIO-2 period?

ESOQ29. Do you agree that our proposed funding and financing arrangements allow the ESO to efficiently finance its activities?

Innovation consultation questions

ESOQ30. Do you agree with the level of proposed NIA funding for ESO? If not please outline why.

ESOQ31. Do you agree that ESO's NIA funding should be subject to the condition that all projects must involve partnership with other network companies, third party innovators and/or academics?

Uncertainty consultation questions

ESOQ32. Do you believe our price control design is sufficiently flexible to account for uncertainty? Are there any relevant foreseeable future uncertainties which we have not identified here?

ESOQ33. Do you have any views on whether we should introduce a different funding approach or uncertainty mechanism to account for the risk of material changes to the ESO's revenue collection role? Do you have any views on how this should be designed?

Other areas consultation questions

ESOQ34. Do you agree with our assessment that the current approach, with the ESO's IT provided by National Grid Group is not appropriate for the future? Have we identified the correct concerns with the current model?

ESOQ35. Do you agree that the ESO needs full control of its IT provision? Are there other options that you think are preferable?

ESOQ36. Do you have a view on the proposed timing of implementing IT autonomy?

ESOQ37. Do you agree with our position that the ESO should recover its internal costs based on actual spend within year? Do you believe this change would create any new information/forecasting needs to allow industry to anticipate and manage this?

ESOQ38. Do you have views on whether the NIA and other ESO pass-through items should be recovered via TNUOS or BSUOS?

ESOQ39. Where or how can the ESO's existing reporting requirements be streamlined?

ESOQ40. Do the proposed timings for the BP2 process provide sufficient time for the ESO to develop and refine a robust plan, stakeholders to contribute to this and Ofgem to undertake the necessary assessment and decision making?

Appendix 2 – Grading of the ESO's Delivery Schedule

Purpose of this appendix

This annex sets out our initial grading of the ESO's two-year Delivery Schedule, performed in line with the methodology set out in Chapter 3. Its purpose is to provide the ESO with targeted feedback on how and where it should improve its Delivery Schedule before we perform a final plan grading at the Final Determinations.

We first grade the ESO's RIIO-2 aims, before then grading the Delivery Schedule for the first Business Plan (BP1). Please refer to the Updated ESO Delivery Schedule, a technical annex published alongside this document, for the deliverables we have considered.

Summary of assessment

Table 38: Summary of ESO Delivery Schedule Grading

What	Assessment	Role 1	Role 2	Role 3
RIIO-2 aims	Ambition (1-5)	5	4	3
Two-year Delivery Schedule	Minimum requirements met (Yes / No)	No	No	No
	Ambition (1-5)	3	3	2

Assessment of RIIO-2 aims

Below we set out our rationale for our scores for the ESO's RIIO-2 aims, first setting out views from stakeholders and then our own views.

Role 1

Stakeholder views

There is a broad consensus that the aims for Role 1 are very ambitious. The RIIO-2 Challenge Group report comments that the plan "sets out a challenging and laudable ambition to enable zero carbon power system operation by 2025". The ERSG are similarly positive on the ambition for this role. Concerns expressed in this area related not to ambition, but more to whether the proposals were deliverable, including whether the ESO had the right capacity and capability to deliver significant new IT investment.

Our views

We agree with the view that the aims for Role 1 are very ambitious. If the ESO's proposed new processes and systems can provide it with the ability to efficiently operate (and restore if needed) a carbon free system in 2025, then this would strongly exceed our expectations. Equally, we believe the ESO's aims to deliver fully automated and open data through its data platform, and to ensure the seamless exchange of operational and planning information between the transmission and distribution system, are suitably ambitious. While the ESO has not clearly explained what improvements in forecasting will be needed to deliver efficient zero carbon operability, we assume that step change improvements will be needed and that this is therefore implicitly included as part of this commitment. We encourage the ESO to set out its plans on forecasting more clearly.

Overall, the RIIO-2 aims are sufficiently ambitious to merit a grade of 5. In order to receive the same grade for the Delivery Schedule, it is vital that there is evident and tangible progress made towards delivering these aims in the first Business Plan period.

Role 2

Stakeholder views

Both the ERSG and Challenge Group were broadly supportive of the ESO's five-year proposals. The ERSG noted strong support for the ESO's proposals on balancing market arrangements. However, they feel that the ESO could have demonstrated more collaboration in developing these proposals, particularly with DNOs. The Challenge Group raised some concerns about the timing of the some of the proposals and the scope for unintended consequences. They considered that the proposed review of the interaction between balancing, capacity and wholesale markets should be concluded much earlier than 2026, and that insufficient consideration had been given to the need to provide the right investment signals for new technologies.

Our views

We support the ESO's overall aims to deliver close to real-time markets that promote the participation of all technologies. In the earlier stages of the RIIO-2 period, we think the ESO has set out ambitious well-formed aims in this area, including co-optimised reserve and response auctions and a single platform for all markets.

The ESO's aims beyond 2023 are less clear to us. We note that the ESO has a mission to deliver 'competition everywhere' by 2025, but it is not fully clear if or how this will be achieved in some areas such as stability, thermal and reactive services. It is also not

fully clear the extent to which this aim extends across the whole system, including how the ESO intends to interface with emerging distribution-level markets. To exceed our expectations over the RIIO-2 period, we would like to see plans for coordinated, competitive markets that covers all system services and which seamlessly integrate with any distribution-level flexibility markets.

We welcome the ESO's aim to transform access to the Capacity Market (CM). We consider that the five-year strategy is not clear on how this will be achieved. To exceed our expectations, we expect to see a RIIO-2 plan that demonstrates how the ESO will deliver a material step-change in the end-to end experience of participants, its implementation of policy changes, and the sophistication and accuracy of procurement recommendations for the CM.

The introduction of a single digitalised technical code for transmission and distribution, assuming it delivers the user functionality and benefits set out in the plan, would exceed our expectations. However, we think the ESO should show greater clarity on its RIIO-2 aims in other areas of its work on industry codes and charging. We believe the ESO has set out good aims to transform its approach to code management. But beyond this, there is limited examples of the ESO aiming to proactively shape wholesale market arrangements or industry frameworks. It is unclear what the ESO's plans for a balancing, wholesale and capacity market review aims to achieve and we question why this does not occur at the beginning of the RIIO-2 period, given the implications for work across Role 2. The ESO's aims for charging and the SQSS, at this point, appear more reactive than examples of the ESO proactively shaping the direction of industry rules and arrangements.

Overall, there are aspects of this role that exceed our expectations (such as the balancing reforms and a digitalised Grid Code) but there are other areas where we think the ESO needs to show stronger, clearer aims. As a result, we have graded the RIIO-2 aims a 4.

Role 3

Stakeholder views

The Challenge Group welcomed the initiatives in this area but also expressed a number of concerns. In particular, the Challenge Group note concerns with the ESO's future proposals for the Network Options Assessment (NOA) and how these will contribute to effective system planning and optimisation. They also considered the delivery timescales for activities were quite long in areas and that the ESO had not explained how it will

address the potential barriers from existing rules and arrangements. The ERSG supported the proposals in this role, but felt that more could have been done to strengthen engagement and address feedback raised.

Our views[75]

We think the ESO's RIIO-2 aims for Role 3 are less well defined than for other roles and unclear in areas. In particular, we agree with the Challenge Panel's concerns around the NOA. We think it is vital that the ESO's network planning work clearly seeks to optimise network development and usage, even more so as offshore connections present increasingly significant and complex challenges. This means all different types of solutions, to all network needs are fully and equally assessed as part of a coordinated process which ensures the optimal solutions are brought forward. We consider there is insufficient explanation of how the ESO's activities will ensure all network development solutions go through a consistent, co-optimised or even coordinated cost-benefit analysis. The ESO's demonstration of this is key to it exceeding our expectations in this role.

As with Role 2, the ESO's strategy to achieve competition everywhere by 2025 is not fully formed. The ESO has highlighted that it will need to improve its analytical inputs, run improved (or possibly new) tenders, identify framework and funding changes and make changes to the NOA methodology – but how these come together and when, and what the end to end network planning process will look like at the end of RIIO-2, is currently unclear. We expected a more coherent and ambitious strategy in this area, particularly as there has been sufficient time since the publication of the Network Development Roadmap in early 2018 to develop this strategy.

If the ESO can extend connection and network access planning approaches across the whole electricity system, to ensure seamless planning across transmission and distribution, then that would exceed our expectations. However, the five year plans do not currently demonstrate this and we are unclear how the ESO is building on the deeper access planning introduced in RIIO-1. The new connections platform has the potential to exceed our expectations, but we are unclear on the functionality it will provide and how/when it might integrate with DNO systems. Likewise, the ESO's aims to provide deeper, whole system insights are welcome, but there is limited information on what these insights will examine and what is meant in practice by deeper.

[75] *Note – our assessment does not include views on the ESO's work associated with its Early Competition Plan or offshore coordination, as this area is still being developed.*

More generally, we consider that the ESO should rationalise its aims across its Business Plan themes three and four into a clear set of aims for Role 3. We note that any future plans for greater coordination in offshore networks or for early competition in transmission networks may further shape these aims.

Overall, the ESO's RIIO-2 plan for longer term network planning currently falls below our expectations. The ESO's aims in other areas of the role show promise, but need firmer end commitments to clearly exceed our expectations. When considered as whole, we believe these factors balance out to result in a grade of 3.

Assessment of two-year Delivery Schedule

General comments

At a role level, none of the Delivery Schedules consistently meet all of our minimum requirements. These gaps in information on deliverables makes it very hard to understand what the ESO will achieve by March 2023 for many of the activities. As a result, it is challenging to draw firm conclusions on how ambitious certain deliverables and their timelines are.

We consider that for all roles, the deliverables are sufficiently relevant, beneficial and in line with priorities. In most cases, the ESO has explained where the work fits within its RIIO-2 vision and why it is beneficial. We also consider it has carried out good engagement with stakeholders to prioritise its proposals. The issue for every role is that the deliverables are not consistently specified and/or time bound.

As we want to provide the ESO with clear and constructive feedback before the Final Determinations, despite the Delivery Schedules failing the minimum requirements, we have provided indicative views on the level of ambition for each area. Where this falls short of our expectations, we have aimed to explicitly articulate what the ESO needs to improve its grading.

By 9 October, we expect the ESO to provide a single document that sets out comprehensively for each deliverable exactly what will be delivered, by when and how success will be measured. The existing Delivery Schedules provide a partial attempt at this and we intend to work with the ESO to ensure the missing information is provided.

Role 1

1 (a) System operation		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A1 (excluding, D1.1.7, D1.4.1) A2 A15.7	No	Meets

Comments:

Minimum requirements

- Deliverables for Control Centre Architecture and Systems (A1 and A15.7) are not well specified. In the majority of cases, it is not clear what specific outputs and outcomes are being delivered by March 2023. Some deliverables (D1.1.4 - D1.1.6, D.1.34, D.1.2.3) do not have milestones or success measures when we consider they should do. Deliverables for Enhanced balancing capability (A1.2) and transform network control (A1.3) have dates and success measures, but it is not clear what additional system functionality will be delivered and by when. This is because the milestones focus on further steps of engagement and unstipulated design work. Milestones that are open ended (eg, "continue design work") are not sufficiently specific. D1.3.2 has an example of a firmer milestone ("first set of tools of tools delivered and integrated with data platform"), but lacks details on what these tools are or what they achieve.
- Control Centre training and simulation deliverables (A2) are better specified, but still contain instances of milestones and success measures which are too general and open ended. These deliverables would benefit from a greater articulation of the outcomes achieved by 2023, including how in practice they will contribute to the ESO's overall aim to operate carbon free by 2025.

Expectations

- Overall, the ESO's deliverables for this activity do not sufficiently explain the progress it aims to make against its ambitious RIIO-2 role 1 aims. We recognise that the ESO is proposing to adopt an agile approach to IT system development and that the precise solutions are still to be defined. However, there is too little detail on the tangible outputs and system functionality the ESO aims to put in place by the end of BP1. As a result, it is very difficult for us to conclude that the BP1 delivery schedule matches the ambition shown by the RIIO-2 plan.
- Regular engagement with the Design Authority and stakeholders over IT system development is very important but is something we expect the ESO to do to meet our expectations. Additionally, incremental upgrades to RIIO-1 legacy systems and tools (such as inertia measurement), and/or the implementation of projects delayed from RIIO-1, will meet but not exceed our expectations.
- The transformational investments under A1, A2 and A15.7 have the potential to exceed expectations, but as discussed, are insufficiently specified for us to conclude they will do for BP1.

Key actions needed to exceed expectations

- The ESO needs to demonstrate how it will make tangible progress during BP1 against its RIIO-2 ambition to have the ability to operate the system carbon free by 2025. Deliverables need to be more tangible and specific so that they clearly articulate what the ESO will achieve in each area by March 2023. This means demonstrating through the plan:
  - The practical improvements to system operation that will be achieved by March 2023 and what this means for both balancing cost savings and carbon emissions.
  - For longer term projects, how the milestones proposed at the end of BP1 will ensure the delivery the 2025 aims are on track (building in contingency for delays and unforeseen consequences).

1 (b) System restoration		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A3	No	Meets

Comments:

Minimum requirements

- A fully competitive Black Start procurement process (D3.1.5) should be a key area for progress during BP1, particularly given the ESO's aims for competition everywhere by 2025. This deliverable has no milestones, success measures or end dates and is therefore not time bound or specified.
- Most restoration standard deliverables (D3.2.1 to D3.2.3) are sufficiently specified. The decision-making support tool (D3.2.4) needs more detail on what will be achieved by the end of BP1 as the milestones ("engage with design") and the success measures ("tool design underway") are too open ended.
- Innovation projects (A3.3) are partially specified, but D3.3.2 lacks detail on outcomes.

Expectations

- The implementation of a restoration standard meets our expectations. The decision-making support tool has the potential to exceed our expectations but there is insufficient detail on what will be achieved in this area by the end of BP1. Given the ESO's view in its technology investment report that current methods for creating restoration plans will become inefficient without this tool, we consider the BP1 milestones are currently unambitious.
- Completing and assessing learnings from innovation project ReStart meets our expectations but does not exceed them. We do not consider the current outputs or timelines for developing the next steps from this project are ambitious enough. More tangible progress is needed before the end of BP1 to give us confidence that the ESO will meet its aims to deliver competition everywhere and have the ability to restore a zero carbon system by 2025.

Key actions needed to exceed expectations

- To exceed during RIIO-2 we expect to see fully competitive procurement of black start services that is fair and open to all market participants and technologies. This means the ESO taking full advantage of non-traditional sources of generation at all voltage levels to maximise efficiency and minimise restoration times. We also expect to see dynamic, continuously adjusted restoration plans and processes.
- We therefore expect to see a delivery schedule which:
  - Clearly specifies what system and process changes will be made during BP1 to make tangible progress against these expectations.
  - Reaches conclusions and next steps from project ReStart on an accelerated timeline, and achieves a measurable increase in types of restoration providers by March 2023.
  - Clearly articulates the additional functionality introduced by the decision-making support tool, with key design work concluded by BP1.

1 (c) Transparency, Data and Forecasting		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
D1.1.7 D1.4.1 D15.4.1 A15.6 (excluding D15.6.7) A17	No	Meets

Comments (including key action to develop an exceeding delivery schedule):

Minimum requirements

- Deliverables on forecasting (D1.4.1) are not specified or time bound.
- Work on the foundational data analytical platform (D1.4.1, A17) is sufficiently specified with clear milestones and success measures. However, details are lacking on what will be achieved with work on ESO-DSO data exchange (D15.4.1, A15.6) during BP1.

Expectations

- The data analytical platform is a key deliverable that if delivered on time with positive user feedback, would exceed our expectations.
- We welcome the RIIO-2 aim to incorporate ESO-DNO data exchange into the data platform. However, there is insufficient information on what will be delivered in this area by the end of BP1. Given the importance of effective ESO-DNO coordination to zero carbon operation, we do not think the current timelines are ambitious enough.
- There is no detail on how the ESO intends to improve its short term forecasting capabilities and by when - this area therefore does not meet our expectations.
- There is no detail on how the ESO will increase transparency and ensure market participants understand its short term operational decisions – this area therefore does not meet our expectations.

Key actions needed to exceed expectations

- Clearer milestones and success measures, which demonstrate more tangible progress in BP1 on ESO-DNO data exchange. This should include specific details on how and when the ESO will work with DNOs to ensure RIIO-2 Business Plans on data exchange are coordinated.
- Clear deliverables that show how and when the ESO will use innovative new processes to deliver step-changes in forecasting accuracy, both at the GB and regional level.
- Clear initiatives which demonstrate how the ESO will ensure stakeholders have a high degree of understanding of its real time operational decision making (going beyond opening up data).

Role 2

2 (a) Market Design		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A4	Yes	Exceeds

Comments:

Minimum requirements

- The schedule meets our minimum requirements. It is generally clear what the key milestones are during BP1 and the outcomes achieved by March 2023.

Expectations

- A single day-ahead response and reserve market and a single integrated platform for the ESO markets, if implemented on time in a joined up manner with wider system changes and with positive user feedback, would exceed our expectations.
- As highlighted in our commentary on the RIIO-2 aims for Role 2, we consider the ESO could be more specific on how its markets will introduce 'competition everywhere'. Those comments equally apply to our two-year assessment.

Key actions needed to exceed expectations

- While we consider the strength of the integrated market platform deliverable is enough for this activity to exceed overall, there are some areas where the ESO could strengthen its case before Final Determinations (for this activity and Role 2 overall). In particular, the ESO could include more specific and measurable deliverables on:
  - how it plans to improve its communication of procurement needs
  - its plans for stability, restoration and thermal services during BP1
  - how in practice it will ensure ESO run-markets are fully coordinated with the evolution of any flexibility markets at the distribution level, to ensure efficient, whole system procurement of system services.

2 (b) EMR		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A5	No	Below

Comments (including key action to develop an exceeding delivery schedule):

Minimum requirements

- Ongoing EMR Delivery Body work (A5.1) needs more granular deliverables each with their own, year by year success measures. In particular, there are no deliverables or success measures on the delivery of policy and system change following CM regulation and rules decisions.
- The enhanced platform for the CM (A5.2) is partially specified with clear milestones. However, more detail is needed on the specific functionally the platform is aiming to deliver. The ESO should include success measures that relate to the quality of the user experience.
- Improving security of supply modelling (A3.3) is reasonably specified but could contain more detail on the specific changes to modelling planned and what accuracy improvements they should achieve by the end of BP1.

Expectations

- To meet our expectations, the ESO should:
  - Run a user friendly and accessible EMR IT portal that removes barriers to entry and provides a step change in user experience from RIIO-1. This portal should be adaptable and enable the ESO to respond quickly and cost efficiently to policy changes.
  - Implement CM policy and system changes in a timely manner (and no later than 12 months following the relevant rules or regulations are laid, unless otherwise stated by Ofgem).
  - Support providers through the Contracts for Difference (CfD) and CM prequalification and auctions by providing accurate and timely guidance on processes and rules. It should ensure a level playing field by adapting engagement strategies and providing targeted support to smaller or newer providers where needed.
  - Readily and accurately present information demonstrating the ongoing effective operation of the CM processes with Delivery Partners.
- The current deliverables under A5.1 and A5.2 are not specific or measurable enough for us to conclude these expectations would be met.
- The ESO's work on improved security of supply modelling, based on the current level of specification and success measures, meets our expectations.

Key actions needed to exceed expectations

- Deliverables and associated success measures which provide confidence that the ESO will deliver continuous and responsive improvements to prequalification and auction delivery, resulting in the full removal of barriers to entry and measurable improvements in the experience of all parties.
- Deliverables which commit the ESO undertaking an annual prioritisation exercise of all expected system change requirements by Delivery Partners, which results in a predictable, transparent and achievable roster of changes to be delivered.

- Details which explain how in practice the ESO will develop a highly accessible EMR portal which seamlessly integrates with other ESO markets within the single market platform. This could include the ESO providing more details on its aim in the main Business Plan to 'use the latest data technologies' to help participants understand how they can participate in the CM and guide them through the process.
- More specific details on improvements the ESO has itself identified to security of supply model inputs and methodologies for BP1. The ESO should aim not just to seek endorsement from the Panel of Technical experts (PTE), but to deliver step change improvements in demand forecast accuracy. This could include the ESO expanding on commentary to explain the steps, dates and delivered outcomes involved with:
    - enhancing the modelling for distributed generation, duration-limited storage and demand response
    - improving European market modelling in response to interconnection
    - maximising the use of the data from the Distribution Connection and Use of System Agreement modification in RIIO-1.

2 (c) Industry codes and charging		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A6 A12 A15.3 A15.8	No	Meets

Comments:

Minimum requirements

- Several of the deliverables are not specific enough and lack clear measures of success. Ongoing code development revenue management (A6.1 to A6.3) have milestones, but no success measures.
- Work to transform the codes process (A6.4) has clear milestones and reasonably clear success measures, but would benefit from greater alignment with the aims set out on page 74 of the main Business Plan. Work on the digitalised grid code (A6.5) is reasonably well specified, but more details could be provided on the level of definition that will be achieved in the associated IT plans by March 2023. BSUoS task force work (A6.6) is poorly specified, as it assumes an end outcome that is not directly within the ESO's control and does not consider what success for the ESO looks like through this work.
- The review of technical standards (A12, D15.8.2) is not well specified. Milestones and success measures focus on general engagement and provide little clarity on the outcomes achieved by March 2023. Likewise, providing technical support to distribution codes (D15.8.1) is not well specified as it does not provide details on what changes might be needed.

Expectations

- As highlighted in our commentary on the ESO's RIIO-2 aims, work in this area could be more ambitious. The same conclusion applies to the two-year plan.

- Implementation of code modifications, facilitation of EU driven code changes, implementation of the Charging and Billing system, and work to support the BSUoS task force, is work continued from RIIO-1 that meets our expectations.
- The ESO's work to transform its role in codes has the potential exceed our expectations, subject to further clarity on which of the aims set out in the main Business Plan would be delivered by March 2023. Whist a digitalised whole system technical code exceeds our expectations for RIIO-2, the current delivery plan does not appear to commit the ESO to enough tangible progress during BP1 to exceed our expectations for this period.
- We do not think the ESO has demonstrated enough examples of proactively identifying and influencing necessary changes to GB industry frameworks to remove distortions and to ensure a level playing field. We recognise the ESO's targeted review of the SQSS is dependent on BEIS' conclusions on technical standards. However, the ESO's current timelines and evidence of thinking on potential issues fall below our expectations. This is particularly given how important the ESO's insight to this work is, and also previous commitments to start considering options in 2018/19.[76] The ESO has also not provided details on how it will provide insight on charging through its roles in Charging Futures or take a leading role in the Access SCR delivery group. This area of the ESO's needs to go further to meet and exceed our expectations.

Key actions needed to exceed expectations

- The deliverables for transforming the codes process clearly commits the ESO to delivering the outcomes set out in its main Business Plan (section 5.4.3.1) by March 2023.[77]
- A firmer milestone for the digitalised whole system Grid Code for Q4 2023, as well as more tangible deliverables that demonstrate how the ESO will input system operation expertise into distribution-level rules and frameworks.
- Tangible examples of the ESO using its unique insight to organise, convene, build consensus to develop GB industry arrangements in the best interests of consumers (including wholesale market rules, charging methodologies, access rules and technical standards). This includes using its position in ENTSO-E to influence European developments that impact GB. The ESO should also demonstrate the clear consideration of the links and dependencies between different markets and across the transmission-distribution boundary.
- Firmer progress and clear direction for the SQSS review, including potential solutions and their timeframes agreed by Q4 2021/22, with quick win changes implemented by March 2023. The plan for Final Determinations should include a greater articulation of potential areas of focus.

Role 3

3 (a) Connections and access		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A14 A15.2 A15.5	No	Meets

[76] See page 12: https://www.nationalgrideso.com/document/126341/download
[77] We note that there is close interaction with the ESO's proposals and wider work on the BEIS-Ofgem Energy Codes Review. While we support the ambitions and encourage the ESO progress its thinking further, we will reserve judgement on the detailed proposals. We encourage the ESO to closely engage with us as their thinking progresses.

D15.6.7 A16		

Comments:

Minimum requirements

- Deliverables to enhance the customer connection experience (A14.3) are reasonably specified, but would benefit from a greater articulation of existing issues for Distributed Energy Resources (DER) and how a new account management function and seminars will address them. The connections hub (A14.4) has milestones but needs details on what functionality phase 1 will deliver.
- Work associated with Regional Development Programmes (RDPs) (15.5) is unclear and not well specified. More explanation is needed on what outcomes and benefits the RDPs will achieve by March 2023, which regions they will focus on and why, how the timelines have been selected and regions prioritised, how in practice IT project 340 will support the March 2023 outcomes, and why each RDP requires its own IT design phase.
- Enhancing the NAP (A15.2) could be better specified – details are needed on how in practice the ESO will increase the visibility of outage costs.
- Deliverables on whole system network access (A16.3, D15.6.7, A16.4) have milestones and success measures, but it is not clear on what deeper access planning means in practice and what additional outcomes will be achieved by Q4 2023. Likewise, it is unclear what level of additional functionally and/or design firmness will be achieved in IT projects 350 and 360 during BP1.

Expectations

- Managing a growing number of connections, establishing account managers for DER and engaging more widely through seminars are steps that meet our expectations. Similarly, establishing forums to coordinate with DNOs (such as the RDPs) to facilitate efficient whole system connections meets our expectations, but in itself does not appear to present a step change from steps taken in RIIO-1. The connections hub has the potential to exceed our expectations, but needs better specification.
- Ensuring NAP processes are consistent across Scotland and England and Wales transmission networks is a minimum step that partially meets our expectations for whole system outage planning. At the moment, there is insufficient information on how in practice outage planning will be extended to account for distributed resources and the timelines for BP1 appear unambitious. To meet our expectations, it is important that detailed thinking is carried in sufficient time to inform DNO RIIO-2 Business Plans, and to exceed them, tangible changes to processes should be made during BP1.

Key actions needed to exceed expectations

- Clear explanation of the changes that will be made during BP1 to provide a seamless connections experience to all electricity networks across GB, including those connected to the distribution system. The connections hub has the potential to achieve this, but the ESO should better specify phase 1, including what specific functionality users will benefit from by Q4 2023.
- Details on how the ESO will proactively identify challenges and potential longer-term responses to connection planning issues, particularly in response to offshore transmission and interconnection.
- More measurable commitments to change existing process to deliver optimal whole system access planning, including:

- Details on specific changes needed to provide visibility and common understanding on the costs and benefits associated with outage changes.
- Evidence of the ESO taking a proactive role in the development of new and improved NAP processes, influencing (and if necessary pushing back) proposals so they promote consumer's interests.
- A clear articulation of what the ESO envisions by deeper, whole system access planning and the benefits and outcomes achieved in this area during BP1 (including how they build on deeper access planning delivered at the end of RIIO-1).

3 (b) Strategy and Insights		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
D1.1.6 A13 A15.1 D15.4.2 A15.9	No	Meets

Comments:

Minimum requirements

- Deliverables in A13 are not well specified. The majority do not have success measures. The ESO does not explain what insights beyond FES (A13.4) will be provided in practice and there is no information to understand how extensive these will be. The ESO's plans to deliver new demand models and whole system model enhancements during BP1 (A13.5) provide limited detail on the types of enhancements that will be made or what they will achieve.
- Deliverables on the System Operability Framework (SOF) (D1.1.6, A15.1) and to identify future operability needs (A15.9) are poorly specified, lacking clear milestones and success measures. The ESO should set out what improvements will be made and when.

Expectations

- The continued production (with incremental year-on-year improvements) of the Future Energy Scenarios (FES), Winter Outlook and Review, Summer Outlook and other thought pieces would meet our expectations. As part of this, we expect to see clear coordination with other Licensees (eg GSO, DNOs) to ensure cross-sectoral interactions are clearly taken into account in future scenario development processes. We also expect to see the ESO providing accurate and consistent GB data into European processes via its ENTSO-E membership.
- Whist the provision of 'deeper' whole system insights and analysis 'beyond FES' could potentially exceed expectations, the lack of information means we cannot conclude that these measures exceed our expectations now. Equally, while the introduction of expanded, regional demand models could exceed our expectations, we do not at this point understand what improvements will be introduced in practice during BP1.
- The continued consideration and communication of future operability challenges (including the production of SOF and Operability Strategy Reports) meets our expectations.

Key actions needed to exceed expectations

- For the FES we expect to see the ESO monitoring and evaluating previous analysis/scenarios, including by back casting, to improve accuracy and explaining clearly the reasons for deviations between forecast and realised outcomes. To provide this confidence, the ESO should include more details on changes to demand models and the specific improvements expected during BP1.
- We would also expect to see the ESO proactively bringing together as many industry parties as possible to identify consistent pathways to achieving scenarios that meet decarbonisation targets, across the whole system. The ESO should more clearly explain the link between the ambition to support DNOs to develop a regional FES and the deliverables in the Delivery Schedule.
- We also expect to see details on how the ESO will ensure all stakeholders have a strong understanding of its future operational strategy and what this means for their future participation in ESO markets and the NOA. In particular, we expect to see all insight and scenarios documents (including the FES, ETYS, Operability Reports, and the SOF) working together seamlessly to present a clear and accessible view of all future needs across the whole electricity system, to maximise the number solutions that come forward.

3 (c) Long term network planning		
Relevant deliverables	*Met minimum requirements?*	*Assessment against Ofgem expectations*
A7 A8 A9 A10 A11 A15.10 and A18[78]	No	Below

Comments:

Minimum requirements

- Overall, the deliverables in this category lack clear milestones and success measures. The ESO needs to clearly explain how deliverables across A7 to A11 come together to form a clear set of aims for this role, making sure the statements in the main Business Plan and delivery schedule are aligned.
- There is no articulation of the enhancements will be made to the ETYS or NOA (A7). The deliverables to enable all solution types to complete in the NOA (A8) provide very limited tangible detail on what the ESO plans to do in practice or the outcomes and benefits it hopes to achieve by the end of March 2023. Deliverables to expand NOA to end of life replacement and connection wider works (A9) contain unspecific milestones and success measures (eg "review existing network planning processes" and "yield benefits for consumers"). Supporting DNO's to make NOA type assessments (A10) contains no detail or success measures.
- Enhancements to analytical capabilities (A11) has some clear milestones, but success measures are too generic and there is no clear explanation of the

[78] *Please note - at this point, we have not commented or considered the ESO's activities relating to early network competition or offshore network coordination (A15.10 and A18), as these plans are still under development. Will evaluate these deliverables once the ESO's roles and work packages are more certain.*

specific outcomes achieved by the end of BP1. The main Business Plan makes reference to the ESO integrating these tools with other ESO network planning tools to better optimise decision making, as well as "combining the economic and technical studies within a single platform", but the delivery schedule does not appear to address these aims.

Expectations

- As a minimum expectation we expect to see the ESO identifying and assessing options (based on robust cost benefit analysis) for solutions to ensure efficient long term design and operation of electricity transmission system, encompassing onshore, offshore and interconnection. It should proactively identify and assess all types of solutions (including transmission, distribution network solutions and non-network solutions) on a coordinated and consistent basis. Finally, it should procure longer-term balancing/network solutions through well-defined, timely, clear needs specifications.
- While it is possible that the ESO's deliverables (A7 to A11) seek to achieve this, they are currently insufficiently specified for us to conclude this. We cannot see enough clear progress from work initiated in RIIO-1 under the network development roadmap for this work to meet our expectations, particularly considering the increase in requested funding for this role. Similarly, we do not consider enough progress is being made to develop and build the Stability Assessment and Voltage Optimisation tools during BP1. The ESO should be including stability and voltage considerations within a coordinated network needs assessment by the end of BP1 at the latest to meet our expectations.
- Assisting the DNOs to develop network planning is an area where the ESO could provide significant expertise and benefits, and in doing so exceed our expectations, but the details of A10 are at this stage not defined. The proposed timelines appear inconsistent with the development timelines for the DNO's Business Plan.

Key actions to exceed expectations

- The ESO's deliverables should clearly demonstrate how, by the end of BP1, the ESO will be able to perform an annual co-optimised assessment of all solutions to all transmission network needs. Additionally, the ESO should demonstrate how it plans to proactively encourage new and innovative solutions from an increasingly diverse range of providers to in order to maximise the solutions considered.
- Specific changes to the plan that are needed to demonstrate this include:
  - a clearer articulation of how activities in this area come together to deliver overall role aims
  - details of what tenders will be run, why they have been prioritised, and what benefits they will create
  - details on how in practice tenders will be improved
  - details on the specific blockers and regulatory hurdles the ESO needs to address during BP1 and how it intends to address them
  - an explanation of how economic and technical studies will be contained within a single platform, with clear associated deliverables on this
  - more ambitious timelines for including stability and voltage tools within the network assessment process
  - a firmer, more detailed plan on how the ESO will assist DNOs on network planning, including when and how it will input to DNO's RIIO-2 Business Plans.

Appendix 3 - Performance metrics assessment and proposals

Purpose of this appendix

In this appendix, we outline our assessment of each performance metric proposed by the ESO in Annex 7 of its Business Plan, taking account of the updates provided in its 2020-21 Forward Plan[79]. This follows the method outlined in Chapter 3.

We explain the reasons why we suggest retaining, amending or eliminating the metrics proposed by ESO, the rationale for our decision and the methodology we followed to identify an alternative or more challenging performance benchmark.

For some metrics, we outline some options to be discussed with the ESO and stakeholders as part of this consultation.

Factors used to assess performance metrics

As summarised in Chapter 3, we considered the following factors to assess the metrics:

- **Relevance.** The ESORI Guidance outlines that the ESO should clearly articulate how the metrics feed into its vision and plan. With this factor, we assess whether a metric is related to the ESO's business plan and whether it is of key importance to the ESO's performance. We also assess whether the area of performance overlaps with or is not better covered by another metric.
- **Frequency of data.** The metrics are data driven measurements of the ESO's performance against a benchmark. To ensure that the performance is trackable the relevant data needs to be available on a regular basis (e.g. monthly). With this factor, we want to measure the frequency with which the data can be produced.
- **Transparency**. As outlined in our ESORI Guidance, each metric should be supported by 'performance benchmarks'. This factor assesses the degree of transparency in the metric's methodology and more specifically if ESO:
  - has clearly outlined the level of performance that is under, in line with or above baseline expectations;
  - has clearly outlined the methodology used to calculate/identify the proposed benchmark;

[79] Please see: https://www.nationalgrideso.com/news/forward-plan-2020-21

  - has published the historical set of data related to the performance, if available.
- **Verifiability**. The ESORI Guidance outlines that the metrics should help stakeholders track ESO's progress against its plans. However, there are several reasons why it could be difficult to externally verify performance. These are related to the absence of a clear method for determining performance, or to the fact that the performance is too strongly impacted by exogenous factors and/or the actions of other stakeholders. This factor measures how verifiable a performance is and whether ex-ante benchmarks would provide sufficiently reliable information about the ESO's performance.
- **Ambition.** According to the ESORI Guidance, metrics should be challenging. This factor measures the degree of ambition of the performance benchmarks proposed by the ESO by considering, when it is available, data on the history of ESO's performance.

The following sections set out our assessments against these factors and subsequent proposals.

Metric 1 – Balancing cost management

Metric 1 – Balancing cost management					
Purpose	Measures the ESO's overall spend on balancing costs and therefore the efficiency of its balancing actions				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Strong	Weak	Average	Weak
Proposal	Take forward as performance metric with new methodology				

Proposal

We propose to maintain a metric on balancing costs but to adopt a different methodology. In particular, we propose to adapt the methodology to factor in the impact of wind of balancing costs. As discussed in Chapter 2, we also propose to include Black Start costs within the overall costs measured in this metric.

Rationale

The ESO has typically spent around £1 billion per year balancing the electricity system, and many of the proposals in its business plan are ultimately intended to help to reduce these costs, making this metric highly relevant. It can also be reported on a monthly

basis. However, we consider transparency of the proposed methodology is weak given the lack of detail on the included adjustment factors, and the lack of detail on how a day-ahead benchmark would be established. This resulted in a weak ambition grade. Additionally, several external factors have an impact on outturn balancing costs, which can therefore impact how reliable the benchmarks are (affecting the verifiability score). Analysis suggests a strong relationship on a monthly aggregated basis between wind generation and outturn balancing costs. As the main exogenous driver of balancing costs, we think the benchmarks could be improved by better accommodating the effects of wind.

Revised methodology

In Table 39, we outline two options on how to reflect wind in the ESO's balancing cost performance metric. We note that Option 2 offers a more sophisticated and precise solution. However, it may reduce the wider understanding and transparency of the metric. Option 1 provides a more approximate and less granular approach that may support a wider understanding but may not be as reliable (for example, benchmarks would less accurately reflect wind conditions that are midway between 'typical' and 'atypical').

Table 39: Options for a balancing cost metric

High-level options for reflecting wind in the metric	
OPTION 1 Ex-ante wind-adjusted benchmarks	As now, define ex-ante monthly and annual benchmarks. These will be based on 'typical wind' conditions and accompanied by additional ex-ante benchmarks for 'above typical wind' and 'below typical wind' conditions. At the end of each month, the relevant monthly benchmark (typical, above typical, below typical) can be identified based on wind conditions experienced in the month. This will then be the benchmark value used to compare to actual costs incurred. For annual performance monitoring, the relevant monthly benchmark values identified throughout the year can be summed to provide an annual benchmark that is reflective of the wind conditions experienced. Overall annual balancing costs can then be compared to this to inform the performance assessment.
OPTION 2 Ex-post wind adjusted benchmarks	As above, define ex-ante monthly and annual benchmarks on the basis of 'typical wind' conditions experienced. At the end of each month, the ex-ante monthly benchmark is adjusted based on the historically observed relationship between wind conditions and outturn costs to reflect the expected effects of wind conditions experienced in that month on benchmark balancing costs. This produces an adjusted, tailored monthly benchmark against which actual costs incurred can be compared. As with Option 1, the monthly targets would produce an overall target for the year.

Below we also outline some detailed open questions on the design of the metric, which we welcome stakeholder views and further engagement on.

Table 40: Open questions on the balancing cost metric methodology

Open questions on the balancing cost metric	
How to define 'typical wind'	Setting benchmarks for 'typical wind' and 'atypical' wind conditions requires a way of defining typical conditions. This could be a simple method that allows for categorisation of historical months by the actual wind conditions[80]. Months flagged as 'typical wind' can then be reflected in the 'typical wind' benchmarking processes. The atypical months may also be reflected in the process for setting ex-ante benchmarks for 'above typical wind' and 'below typical wind' under Option 1 above.
Monthly benchmark derivation	The current approach allocates the annual benchmark into monthly components based on each month's share of overall spend in the most recent year. This means that the monthly benchmarks are sensitive to particular events in the previous year. It may be preferable for the monthly allocation to be based on the average share of spend in each month over an extended period, potentially over the full historical period (see below), to give a distribution between months that is more representative of experience in recent years.
Historical period and averaging	The current approach is based on linear averaging over a 5 year historical time period[81]. This allows for some smoothing of any cyclical variations and of the effects of unusual events, while also picking up on more recent developments. A shorter historical time period (or greater weighting of more recent years) would place more emphasis on more recent costs, whilst a longer period would allow a greater number of observations to be used. There is a trade-off: a longer averaging period allows for some smoothing of effects of unusual or extreme events but is also less reflective of more recent trends that may be valid going forward; conversely, a shorter averaging period and increased weightings for more recent years is more likely to reflect extreme events or situations but is also more reflective of recent conditions which may be relevant in future. In light of the general upward trajectory in balancing costs over recent years (and assuming that these costs are considered to have been reasonably incurred), there may be scope to shorten the period used to derive a historical average. The hypothesis to be considered further is that this would reduce the need for adjustment factors to be applied. The approach could be revisited in the case of the emergence of a trend of plateauing or reducing costs in the future.
Setting adjustment factors	At present, a number of ex-ante adjustment factors are applied to the benchmark cost values. These are intended to adjust for (a) historical events or (b) more recent trends that are not reflected in historical data but are expected to persist. However, we've had ongoing concerns about

[80] For example, the metric could be average daily outturn wind generation per MW installed for each month. Based on this measure, the distribution of average daily outturn wind MWh/MW for each month over the historical period considered could be established. Wind condition categories can then be defined with reference to the distribution curve of this metric. The make-up of any metric for this purpose should be considered further, but with a focus on simplicity, without trying to get too nuanced.

[81] The current methodology (ref Annex 2 of the 2020-21 Business Plan) applies a 5-year linear averaging approach to get a moving average figure. This calculates the rolling average for a year as the average of the cost in that year plus the costs in the two years either side of that year (ie the rolling average for 2016 is the average from 2014-2018 inclusive). The linear trend from the rolling averages is then extended into the future and used as the basis for the upcoming benchmark values.

	the validity of these adjustment factors. As set out above, altering the historical period and averaging approach may reduce the need for adjustments, but other steps could be taken to tighten the requirements linked to making adjustments. We propose that the default position should be that adjustments are applied by exception and, where they are, it is at the discretion of the Authority following a robust demonstration of need by the ESO. We also propose these should be considered on an annual basis.

Metric 2 - Critical national infrastructure (CNI) system reliability

Metric 2 - Critical national infrastructure (CNI) system reliability					
Purpose	Measures the ESO's ability to accurately forecast and deliver planned outages for CNI systems and minimise unplanned outages to these systems.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Strong	Low	Low	n/a
Proposal	Take forward as regularly reported evidence, expanded to all IT systems				

Proposal

We do not intend to take this forward as a performance metric. Instead, we propose that the number and length of planned and unplanned outages for IT systems should be regularly reported evidence that is considered under the evidence of benefits evaluation criterion. We are interested in stakeholder views on whether this should apply to all ESO IT systems (that affect external parties), rather than just CNI systems[82].

Rationale

As the ESO's business plan is heavily focussed on IT investment, we can see the merit in measuring IT reliability performance. However, we note that several of the CNI systems are due to be replaced or upgraded later in the price control, so this metric appears less focussed on the quality of IT development but more on the performance of older systems (resulting in an average relevance rating). As this information could be reported each month, we score the frequency factor as strong. Whilst the transparency and verifiability of the metric was originally low, as there were no clearly derived benchmarks, the ESO has subsequently provided additional data which could be used to establish benchmarks. Given the timing of us receiving this data, we have yet to be able to conduct full analysis to establish whether reliable benchmarks can be defined. However, our initial view is

[82] CNI system include: the Balancing Mechanism System (BMS), Integrated Energy Management System (IEMS) and the Electricity Balancing System (EBS).

that the variability observed in outages over the last few years could make this challenging without further details on the drivers of the outages.

We see merit in at least publishing data related to the CNI outages on a monthly basis. We also see merit in potentially expanding this to more (or all) IT systems that impact stakeholders. We will further explore whether robust benchmarks can be set between now and Final Determinations.

Metric 3 – Day ahead demand forecast accuracy

Metric 3 – Day ahead demand forecast accuracy					
Purpose	The day ahead demand and day ahead BMU wind generation forecasting metrics (the latter introduced by ESO in the 2020-21 Forward Plan) are aimed at measuring the ESO's accuracy in forecasting.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Strong	Average	Average	Average
Proposal	Take forward as performance metric with revised methodology, which we will would also apply to wind generation forecasting				

Proposal

We propose to take forward metrics on day-ahead demand and wind generation forecasting. However, we propose a different methodology to calculate the performance benchmarks and propose: (a) to use half hourly data rather than the cardinal point data; and (b) to calculate the absolute % error rather than absolute mean error for the day ahead demand forecasting metric.

Rationale

We welcome the development of the Platform for Energy Forecasting, which aims to support stakeholders in making informed decisions by providing more accurate, frequent and granular forecasts. Improved energy forecasts will enable market participants to better balance their position, resulting in fewer additional balancing actions and, ultimately, lowering bills for consumers. Additionally, more sophisticated short term forecasting will be increasingly needed for the ESO to efficiently operate a zero carbon system. This metric therefore has strong relevance. We also ranked the frequency factor as strong, as the metric would be reported on a monthly basis. We consider the level of transparency, verifiability and ambition is average for a few reasons. Firstly, we consider that accuracy in every half hour is important, particularly as the market operates in half hourly periods. The current approach does not capture this. Secondly, we believe an absolute % error is preferable to an absolute mean error. This would remove the impact

of demand reductions over the last few years, whilst better ensuring there is sufficient focus on lower demand periods, which are increasingly becoming the driver for high balancing costs.

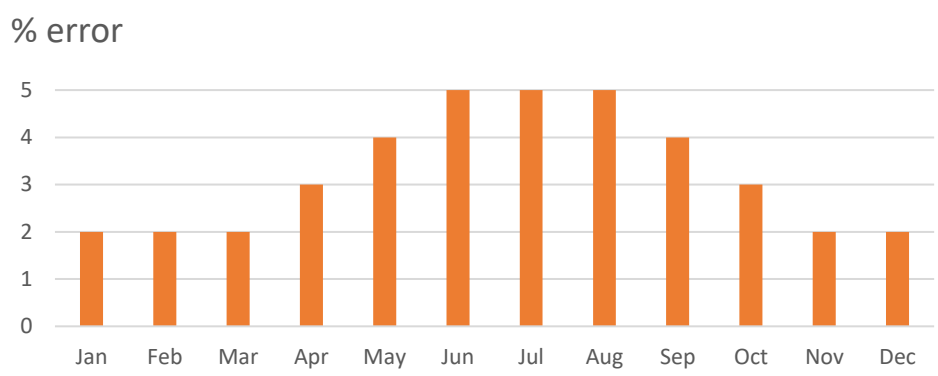
Revised methodologies

Day ahead demand forecasting metric

Table 41 outlines the key results of the analysis conducted by AFRY and our proposed methodology.

Table 41: Demand forecasting performance metric methodology

Methodology and approach proposed for the day ahead demand forecasting metric	
Data inputs used for the analysis	Half-hourly day-ahead demand forecast and outturn demand; and data for the period between April 2014 to March 2020.
Analysis and methodology	Historical analysis highlighted differences in performance between, broadly speaking, winter and summer periods: • Winter (November to March)- around 2% absolute error (~700MW absolute error); • Summer (April to October) - around 5% absolute error (~1500MW absolute error); • Overall - around 3.75% absolute error (~1200MW absolute error). Differentials in performance over different timescales highlights potential for additional incremental improvement over summer to reduce the step-change in observed performance. To reflect this, rather than taking the annual average of ~3.75% as the starting point, we propose that the step change between current winter and summer performances can be smoothed. If a simple 'smoothed' performance trajectory is applied over a two-month ramp either side of the summer, then an adjusted baseline for annual average absolute % error of ~3.3% can be derived. We expect a year on year improvement in forecasting. We have used the ESO's suggestion (albeit proposed on absolute MW error approach), to adopt 5% year-on-year reduction in performance target. This creates emphasis on continued improvement while noting expectations of diminishing returns over time. For the purpose of reporting, we suggest applying the smoothed monthly targets shown in Figure 2. **Figure 2: Proposed monthly % error for deriving benchmarks**

	 We suggest a range +/-0.2 % points around these errors as a suitable band for meeting expectations. This is informed by historic variance and designed to set a stretching target for exceeding expectations.
Performance benchmarks	Year 1 • Exceeds: <3.1% • Meets: 3.1% to 3.5% • Below: >3.5% Year 2 • Exceeds: <2.94% • Meets: 2.94% to 3.34% • Below: > 3.34%

Day ahead BMU wind generation forecasting metric

We propose applying the same methodology to calculate the benchmarks for a wind forecasting accuracy metric (calculating an absolute % error applying using half hourly data and adopting an adopt a year-on-year reduction for the performance target). Subject to further work with stakeholders, we will set benchmarks for this at the Final Determinations.

Metric 4 – Security of supply

Metric 4 – Security of supply					
Purpose	Measures the quality of service that the ESO delivers in running the electricity network by tracking the number of voltage and frequency excursions that take place.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Strong	Average	Average	Weak
Proposal	Take forward metric for frequency deviations with revised method. Report voltage excursions as regularly reported evidence.				

Proposal

We propose that the frequency deviation metric should focus on a tighter range of deviation (+/-0.3 Hz range for 60 seconds or more) than the one proposed by the ESO. Our proposed performance benchmarks for exceeding, in line and below expectations, are outlined in the Table 42.

Table 42: Proposed performance benchmarks for security of supply metric

	Benchmark exceeding expectations	Benchmark in line with expectations	Benchmark below expectations
Number of frequency excursions in +/-0.3 Hz range for 60 seconds or more per year[83]	<3	3	>3

We do not intend to take the voltage element of this proposal forward as a performance metric, but we believe any voltage excursions should be reported on a monthly basis as regularly reported evidence.

Rationale

We consider that having a metric in this area is important, as the ESO needs to demonstrate its continued ability to keep the system secure and stable as it achieves its goal of operating the system carbon free. We therefore believe the proposal is strongly relevant. As data can be reported on a monthly basis, we consider it rates strongly against the frequency factor.

The Security and Quality of Supply Standard (SQSS) and Grid Code contain specific standards in terms of frequency and voltage excursions. The targets proposed by the ESO focused on compliance with these standards. We do not believe this would provide sufficiently meaningful information on the ESO's performance as we would expect the ESO to meet these standards as a minimum requirement (which is why we ranked the metric as weak in terms of ambition). We believe it would be better to understand the number of 'near-misses' to breaching current requirements to better see if there is an improvement or worsening of system stability over the course of the Business Plan.

[83] Six deviations over the course of the two-year scheme

The data analysis conducted by AFRY on frequency excursions over the period between 2014/15 to 2018/19 outlined that the incidence of smaller scale deviations has been increasing over time. Considering this result, we believe there to be merit in defining a metric with a more granular focus of frequency performance. We accept that events out of the ESO's control can impact the number of near misses in a year (thus our average rating for verifiability), but we believe this can be addressed by the ESO clearly reporting on the reasons for any deviations.

Our analysis of historical data between 2015/16 and 2019/20 shows an average of 2.4 events per year where frequency has deviated outside of a +/-0.3 Hz range for 60 seconds or more with four such events occurring in 2019/20. We therefore believe that 3 instances per year (six over two years) reflects a fair benchmark for meeting expectations We welcome views on whether the meets benchmark should be a range, reflecting the two-year scheme design (e.g. 2.5 to 3.5 events per year) or a single number.

For voltage excursions, our analysis did not reveal a sufficiently clear trend to set reliable benchmarks for similar 'near misses', so we instead propose that the ESO reports on any excursions as regularly reported evidence.

Metric 5 – Delivery of zero carbon operability ambition

Metric 5- Delivery of zero carbon operability ambition					
Purpose	Measures the progress and delivery of the milestones outlined by ESO in its Business Plan to operate a zero-carbon electricity system by 2025				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Weak	Weak	Average	Weak
Proposal	Do not take forward				

Proposal

We do not propose to take the ESO's proposal forward as a metric. However, we believe it could provide useful context to support the ESO's evidence on plan delivery in its performance reports.

Rationale

The delivery of zero carbon operability is central to the ESO's business plan. Measuring the achievement of this goal is therefore highly relevant. However, the approach taken significantly overlaps with reporting against the plan delivery criterion and other metrics

(resulting in an average relevance rating overall). We ranked the transparency, verifiability and ambition factors as weak as there is no clear methodology on how the Red Amber Green (RAG) ratings are determined and performance appears to be left largely to the ESO's discretion. The proposed RAG methodology is poorly defined and fails to provide the information required to build a robust benchmark. However, considering the importance of the ESO's zero carbon operability ambition, we suggest the ESO should publish the proposed dashboard report to support the assessment of performance under the plan delivery criterion.

Metric 6 – Proportion of balancing services procured through competitive means

Metric 6 – Proportion of balancing services procured through competitive means					
Purpose	Measures the proportion of balancing services procured competitively				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Average	Average	Average	Average
Proposal	Take forward metric with adapted methodology				

Proposal

We propose to take forward this metric but to tighten the benchmarks in line with the ESO's ambition for competition everywhere by 2025. We also propose to set an aggregate target across all the services rather than individual targets for each balancing service. The assessment will be based only on the annual % of competitive spend and performance would be reported each month. The benchmarks we propose are outlined in Table 43. Whilst the metric will assess the overall percentage of competitive spend, we still propose that ESO should report monthly on the percentage of competitive spend in each of its services. We also propose that it provides regularly reported evidence on the diversity of providers in each balancing service.

Table 43: Revised performance benchmarks for competitive procurement metric

Year	Mid-point in trajectory	Deadband	Benchmark for exceeding expectations	Benchmark for in line with expectations	Benchmark for below expectations
2021/2022	55%	+/-5%	>60%	60% - 50%	<50%
2022/2023	70%	+/- 5%	>75%	75% - 65%	<65%

Rationale

Competition everywhere is a key ambition the ESO has set out to achieve during RIIO-2. Given the benefits that promoting competition in the procurement of balancing services delivers to consumers, we consider this is a key metric and is strongly relevant. We also note that stakeholders have also welcomed this metric. Whilst the ESO's Forward Plan 2020-21 suggests performance would be reported on a quarterly measure, we suggest this could be reported each month to provide a more granular view on the ESO's progress.

We agree with the ESO that this metric is a good measure for assessing its performance because the means of procurement are largely within ESO's control. However, we found the overall performance benchmarks proposed by ESO unclear (resulting in an average rating for transparency and verifiability). The ESO suggested a blend of spend, volume and market price measures, without giving details about the methodology for building the overall performance benchmarks.

We believe that the share of the spend procured by competitive means is the most straightforward and transparent measure to use. Additionally, we believe having a single metric and benchmarks for all balancing services will allow ESO to focus on the goal of increasing the general level of competitive procurement, rather than focusing on a specific product, which could risk unintended consequences. The combined approach also seems more consistent with the competition everywhere goal.

We believe that maintaining monthly reporting, with a breakdown of competitive spend in each balancing service, will deliver additional transparency minimising the risk that 'harder to improve' services may be left behind. We also consider that including reporting on the level of diversity in each market will provide additional context on the level of competition in these markets.

We consider the ESO's proposed performance benchmarks could be more ambitious (resulting in an average rating in this area). We have suggested revised benchmarks that are more in line with the development of the Single Market Platform for all balancing services by 2023, and the trajectory for competition everywhere by 2025. These benchmarks are derived by assuming that by the ESO achieving 100% competition in all its markets by the end of 2024/25, it will exceed expectations. The benchmarks for BP1 are set on a linear trend towards that goal. We also assume that all reserve and frequency response will 100% competitive by the end of 2022/23.

Metric 7 - Electricity Market Reform (EMR) – decision quality

Metric 7 - EMR - Decision quality					
Purpose	Measures the percentage of ESO's prequalification decisions overturned by Ofgem in the Tier 2 disputes process on the total number of prequalification applications received for the Capacity Market auctions.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Weak	Strong	Strong	Average
Proposal	Take forward as regularly reported evidence, with clear expectations set.				

Proposal

We propose to take this forward as regularly reported evidence rather than a performance metric. We also propose setting quantitative expectations associated with this regularly reported evidence, as outlined in Table 44.

Table 44: Performance expectations for EMR decision quality

	Exceeding expectations	**Meets expectations**	Below **expectations**
2021/2022	<1.3 overturns per 1000 applications	1.3 – 1.5 overturns per 1000 applications	>1.5 overturn per 1000 applications
2022/2023	<1.3 overturns per 1000 applications	1.3 – 1.5 overturns per 1000 applications	>1.5 overturn per 1000 applications

We note that the ESO have not provided a proposal for a metric related to the CfD scheme. We consider that it is necessary for there to be a performance measure related to the ESO's decision making quality in this area. We expect to work with the ESO to establish suitable expectations ahead of the Final Determinations.

Rationale

We agree that the quality of the ESO's decision-making is key to promoting high levels of participation in efficient auctions and that a greater participation in the Capacity Market auctions would mean lower costs to consumers. However, given that the disputes process will not occur on a regular basis, performance in this area cannot be regularly tracked (failing against the frequency factor). As there is a robust and tested methodology for setting targets in this area, and performance is largely within the ESO's control (thus scoring strongly transparency and verifiability), we propose to set

quantitative expectations associated with this evidence. However, we propose a change to the measurement approach to further strengthen the measure.

Given the volatility of the number of applications year by year, as reported in the historical performance in Table 45, we consider that the number of overturns per 1000 applications is a better measure to track ESO's decision-making quality in this area. We have used the historical data to set appropriate expectations for exceeding, meets and below expectations.

Table 45: Historical performance on EMR decisions

Year	2015/16	2016/17	2017/18	2018/19	2019/20
No. of applications	598	1751	1948	1661	2284
No. of Tier 2 overturns	0	2	3	5	3
Historical performance (overturns per 1000 applications)	0	1.1	1.5	3.0	1.3

Metric 8 - Electricity Market Reform (EMR) – Demand forecast accuracy

Metric 8 – EMR demand forecast accuracy					
Purpose	Measures the accuracy of the forecasts of peak demand, which is used to determine the volume of capacity to procure though Capacity Market auctions.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Weak	Strong	Average	Strong
Proposal	Take forward as regularly reported evidence, with clear expectations set				

Proposal

We propose to take this forward as regularly reported evidence rather than as a performance metric. We also propose setting quantitative expectations associated with this regularly reported evidence as show in Table 46. This applies the same methodology and targets proposed by the ESO in the Business Plan.

Table 46: Quantitative performance expectations for EMR demand forecasting

	exceeding expectations	in line with expectations	below expectations

2021/2022 T-1	<2% peak demand accuracy	2% peak demand accuracy	>2% peak demand accuracy
2021/2022 T-4	<4%peak demand accuracy	4%peak demand accuracy	>4%peak demand accuracy
2022/2023 T-1	<2% peak demand accuracy	2%peak demand accuracy	>2% peak demand accuracy
2022/2023 T-4	<4%peak demand accuracy	4%peak demand accuracy	>4%peak demand accuracy

Rationale

We agree that improving the accuracy of peak demand forecasting will optimise the volume of capacity procured in the auction, and consequently will reduce costs to consumers and security of supply risk. However, given that the outturn demand will not be information readily available on a regular basis, performance in this area cannot be regularly tracked (failing against the frequency factor).

As there is a robust and tested methodology for setting targets in this area (thus scoring strongly transparency and verifiability), we propose to set quantitative expectations associated with this evidence. Given the historical data provided (Table 47), we consider the performance levels proposed by the ESO in the Business Plan are suitably ambitious.

Table 47: Historical performance on EMR demand forecasting

Year	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Historical performance T-1	3.0%	3.1%	5.0%	1.0%	3.2%
Historical performance T-4	8.1%	13.1%	12.9%	6.9%	7.6%

Metric 9 - Code Administrator Code of Practice survey

Metric 9 - Code Administrator Code of Practice survey					
Purpose	Measures stakeholder satisfaction with the ESO's performance as Code Administrator for each code.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Weak	Strong	Average	Weak
Proposal	Do not take forward				

Proposal

We do not propose to consider the Code Administrator Code of Practice (CACOP) survey as a metric. Instead, this evidence should be considered against the stakeholder satisfaction evaluation criterion.

Rationale

We believe measuring satisfaction with the ESO's code administration performance is important, particularly given the ESO's Business Plan aims to transform the code process. However, the CACOP survey is only undertaken once per year (failing against the frequency factor). The survey approach is well established but we note that it relies of a sufficient number of participants to engage. We expect the ESO to seek to be one of the top code administrators, rather than achieving incremental improvements to current scores. Overall, we consider that this area of performance would be better assessed under the stakeholder satisfaction evaluation criterion.

Metric 10 - Consumer value savings from the Network Option Assessments (NOA) process

Metric 10 - Consumer value savings from the NOA process					
Purpose	Measures the consumer value savings by enhancing and extending the scope of the Network Options Assessment (NOA) process				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Weak	Weak	Weak	Weak
Proposal	Take forward as regularly reported evidence				

Proposal

We do not propose to take this forward as a metric, but believe the ESO should provide regularly reported evidence on consumer value from the NOA and on the diversity of technologies considered in the NOA methodology.

Rationale

The value the ESO creates through expanding the NOA process is highly relevant to its Business Plan, and makes up a significant proportion of its overall Business Plan CBA. However, the data on this area of performance would be produced only once a year and we therefore scored the frequency factor as weak. Furthermore, we agree with the ESO that external factors make it difficult to define robust benchmarks for consumer value

savings, as the number of options and the level of investment and reinforcement required on the networks will vary year by year and are not something the ESO has exclusive or direct control over. This is why we ranked the transparency and verifiability factors as weak. For longer-term focussed activities and/or those that have very strong interdependencies with the actions of other stakeholders, it appears difficult to develop reliable benchmarks. As a result, we believe it makes more sense for area to be regularly reported evidence.

Metric 11 – Right first time connection offers

Metric 11 – Right first time connection offers					
Purpose	Measures the quality of the customer service during connections processes, and, more specifically, whether aspects of connection offers were correct the first time they were sent out to customers.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Weak	Strong	Average	Weak	Strong
Proposal	Do not take forward				

Proposal

We propose not to take forward this as a metric or specific performance measure.

Rationale

We believe that this metric only has limited relevance to the overall aims of the business plan, and has relatively less obvious consumer value attached than many of the other metrics. Furthermore, making errors in connection offers is not the only part of delivering a good connections service. Other aspects, such as timeliness and communication are important. We recognise that performance could be reported regularly, that the metric has benchmarks based on historical evidence, and that the targets are reasonably challenging. However, we also note that the determination of error is left to the discretion of the ESO.

Overall, given the lack of other suitable metrics in Role 3, we consider this metric would carry too much weight in the evaluation if included as the sole Role 3 metric. Additionally, the current benchmark proposed by the ESO in its Forward Plan 2020-21 (which sets a target for 'exceeding expectations' as 100% offers right first time) would make outperforming the metrics criteria for Role 3 hard to achieve. This could limit the ESO's ability to score a 5 overall for this role even where performance on other more important areas is very strong. We therefore believe it makes more sense for the ESO's

connections performance to instead be considered through the stakeholder satisfaction criteria.

Metric 12 - Future balancing costs saved through operability solutions

Metric 12: Future balancing costs saved through operability solutions					
Purpose	Measures the extent to which the implementation of new operability tools (stability, frequency or constraint management services, or operational policies such as loss of mains risk management) will reduce balancing costs in the future for five categories of operability constraints: Thermal, Frequency, Voltage, Stability and Black Start.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Average	Weak	Weak	Weak
Proposal	Take forward as regularly reported evidence				

Proposal

We do not propose to take this forward as a metric, but believe the ESO should include the information outlined in its proposal as regularly reported evidence.

Rationale

We think it is vital that the ESO undertakes initiatives now to solve operability challenges and reduce future balancing costs. This area of performance is therefore very relevant. However, we expect that many of these actions should deliver benefits within the RIIO-2 period, meaning there is potential overlap with Metric 1 – Balancing Cost Management (resulting in an average relevance rating overall). The information has the potential to be reported regularly but not as regularly other areas (scoring an average frequency rating). Overall, we think the transparency, verifiability and ambition of this metric is weak. There is a lack of clear methodology on how savings would be calculated or reliable historical information to set a benchmark. We therefore believe this information is better reported as regularly reported evidence without ex-ante benchmarks.

Metric 13 - Capacity saved through operability solutions

Metric 13: Capacity saved through operability solutions					
Purpose	Tracks the capacity unlocked through regional operability solutions, including reduced infrastructure costs and monetised carbon reductions.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Strong	Average	Weak	Weak	Weak
Proposal	Take forward as regularly reported evidence				

Proposal

We do not propose to take this forward as a metric, but believe the ESO should include the information outlined in its proposal as regularly reported evidence.

Rationale

We believe that ESO should seek to release as much capacity as possible through its operability solutions and optimise the use of infrastructure to allow more participants, including renewable generation, to access energy markets. This area is very relevant to the Business Plan. The information also has the potential to be reported regularly but not as regularly other areas (scoring an average frequency rating). Overall, we think the transparency, verifiability and ambition of this metric is weak.

Even with the information that the ESO is planning to collect on cost and carbon savings in the course of the 'trial period' (2020/2021), the historical data available will be very limited, and we believe that it will not provide sufficient information to develop robust benchmarks. Furthermore, it is not clear how the metric will be calculated and why the ESO is proposing a target of 10% per year. There appears to be significant flexibly around how the ESO calculates savings which means performance would be very hard to verify. Finally, performance against this metric is dependent on developments in networks and markets, which are only partially in the control of the ESO. We therefore believe this metric is better suited to being regularly reported evidence.

Metric 14 – Capacity saved through our network access planning actions

Metric 14 – Capacity saved through our network access planning actions					
Purpose	Measures customer value created through work between the ESO, TOs and DNOs to release capacity across the whole electricity system.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Average	Weak	Weak	Average
Proposal	Take forward as regularly reported evidence				

Proposal

We do not propose to take this forward as a metric, but believe the ESO should include an adapted version of the information in its proposal (based on £m savings) as regularly reported evidence for Role 1. This should be included alongside its reporting on the Balancing Cost metric (Metric 1).

Rationale

We support the ESO's ambition to deliver deeper network access planning policies and procedures to ensure network operators can access their assets in a coordinated, cost effective way. However, we think there is potential overlap between performance in this area and Metric 1, which should capture reduced balancing costs from network access planning (resulting in an average relevance rating overall). This information is potentially regularly trackable. Overall, we think the transparency and verifiability of this metric proposal is weak. The methodology for calculating capacity saved in unclear and we do not believe the historical data, which shows significant changes over 2017-20 period, would enable us to set robust benchmarks. We also consider that measuring performance in MWh is less transparent than in £m. While the ESO's proposed 10% improvement on previous year's performance appears a reasonable aim, without confidence in the underlying methodology, it is hard to determine whether this is ambitious.

Nevertheless, given the importance of optimal access planning to overall balancing outage costs, we believe there is merit in requiring the ESO to explicitly record £m savings from network access planning, alongside it's reporting on its balancing costs metric. We consider this would be a more transparent reporting of value created from network access planning than the ESO's proposal.

Metric 15 – Number of short notice changes to planned outages

Metric 15 – Number of short notice changes to planned outages					
Purpose	Tracks the number of outages out of every 1,000 outages delayed by more than an hour, or cancelled within day due to ESO process failure.				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Strong	Strong	Average	Strong
Proposal	Take forward (moved to Role 1)				

Proposal

We propose to use this metric to assess ESO's performance, but under Role 1 rather than Role 3. A this stage, we propose to adopt the benchmarks proposed by the ESO in its Forward Plan 2020-21, outlined in Table 48. However, we intend to keep this under review between now and our Final Determinations.

We welcome stakeholder views on whether these targets are sufficiently ambitious or whether they should be incrementally tightened over the course of 2020/21 to 2023/24 to drive further performance improvements.

Table 48: ESO's Forward Plan 202-21 benchmarks for Metric 15

	Benchmark for exceeding expectations	Benchmark for in line with expectations	Benchmark for below expectations
Outages cancellations per 1,000 outages per year	<1	1- 2.5	> 2.5

Rationale

We do not consider this metric has the same level of consumer value attached to it as other metrics. However, we note that stakeholders have highlighted support for this metric and we see merit in continuing to create a focus on the ESO delivering an efficient outage planning process. This metric can also be reported monthly so rates strongly in term of frequency.

The methodology is sufficiently robust, with consistent historical data on performance collected over a number of years. There is also a large number of observations per year to draw benchmarks from. We welcome the updated benchmarks that the ESO has proposed in the 2020-21 Forward Plan. Given the ESO's performance for 20219/20, 2.27 outage cancellations per 1000 outages, we also consider that the updated benchmarks reported appear reasonable. However, we will monitor this area before Final Determinations and intend to seek further stakeholder views on whether targets should be further tightened over the course of BP1.

We note the ESO moved this metric to Role 1 in its 2020-21 Forward Plan. We agree that this metric is better placed in Role 1. Overall, considering this would be one of a package of metrics in Role 1, we consider it suitable for inclusion as performance metric.

Metric 16 - Proportion of shareable data published

Metric 16 - Proportion of shareable data published					
Purpose	Measures the proportion of shareable data sets held by the ESO that it has published				
Assessment	*Relevance*	*Frequency*	*Transparency*	*Verifiability*	*Ambition*
	Average	Weak	Weak	Weak	Weak
Proposal	Do not take forward				

Proposal

We do not propose to take forward this metric.

Rationale

We expect the ESO to provide user-friendly, comprehensive and accurate information and data. We note that ESO's data platform proposal is a key deliverable in its Business Plan that seek to transform access to ESO information. Our minimum expectation is that all shareable datasets would be available on this platform. We believe the ESO's performance can be better measured by considering whether the data platform is delivered on time and the stakeholder feedback on this platform. For these reasons, we consider the relevance is average. We consider the proposal is weak against the remaining factors. It is not benchmarked and there is no clear methodology for determining performance. This leaves too much discretion for the ESO to determine its own performance. As we expect 100% of shareable date to be shared, the ambition is also weak.

Metric 17 – Customer and stakeholder satisfaction

This metric proposal is discussed in Chapter 3, in the sub section named 'Stakeholder Satisfaction surveys'.

Appendix 4 – Further breakdown of costs assessment

Purpose of this annex

This annex provides a more detailed breakdown of our cost proposals than the summary tables in Chapter 3. This includes and breakdown of conclusions by Business Plan sub category, and for each IT&T project. All figures are in £m for the first Business Plan period from April 2021 to March 2023 (BP1). Please note that the values may not fully reconcile due to rounding.

ESO opex

Table 49: Further breakdown of ESO Opex

Category	Sub category	Funding Request	Proposed efficient benchmark cost
Role 1	Operational Support	13.5	12.2
	Operations	48.2	43.7
Role 2	Charging	7.1	7.1
	Codes	21.3	19.5
	EMR	6.7	5.3
Role 3	Medium Term Network	17.1	15.5
	Strategy	4.9	4.3
	Scenarios	2.6	2.5
	Long Term Network	13.6	12.1
Supporting Operational Costs	n/a	15.5	13.4
Total		**150.4**	**135.6**

IT& T capex

Table 50: Breakdown of cost assessment by IT project

Project ID	Name	Requested costs	Qualified for ex-ante steer	Included in benchmark	Not included
110	Network control	8.1	No	0.0	8.1
120	Interconnectors	3.0	Yes	2.2	0.7
130	Emergent technology and system management	1.5	No	-	1.5
140	ENCC operator console	0.7	Yes	0.6	0.2

Project ID	Name	Requested costs	Qualified for ex-ante steer	Included in benchmark	Not included
150	Operational awareness and decision support	2.1	Yes	1.6	0.5
170	Frequency visibility	1.1	Yes	0.9	0.3
180	Enhanced balancing capability	18.2		13.7	4.6
190	Workforce and change management tools	0.0	n/a	-	-
200	Future training simulator and tools	0.0	n/a	-	-
210	Balancing asset health	2.6	Yes	1.9	0.6
220	Data and analytics platform	8.9	No	-	8.9
240	ENCC asset health	4.1	Yes	3.8	0.3
250	Digital engagement platform	2.5	Yes	1.9	0.6
260	Forecasting enhancements	0.3	Yes	0.2	0.1
270	EU regulation	16.2	Yes	13.8	2.4
280	GB regulation	5.4	Yes	4.6	0.8
290	Charging and billing asset health	1.8	No	-	1.8
300	Charging regime and CUSC changes	1.2	Yes	1.0	0.2
320	EMR and CfD Improvements	2.1	Yes	1.6	0.5
330	Digitalised code management	0.0	n/a	-	-
340	RDP implementation and extension	6.1	Yes	5.2	0.9
350	Planning and outage data exchange	0.8	Yes	0.6	0.2
360	Offline network modelling	2.0	Yes	1.5	0.5
380	Connections platform	1.4	No	-	1.4
390	NOA enhancements	6.1	Yes	5.2	0.9
400	Single markets platform	6.2	Yes	4.7	1.6
410	Ancillary services settlements refresh	2.3	Yes	2.1	0.2
420	Auction capability	0.0	n/a	-	-
450	Future innovation productionisation	1.2	No	-	1.2
460	Restoration	2.7	Yes	2.0	0.7

Project ID	Name	Requested costs	Qualified for ex-ante steer	Included in benchmark	Not included
480	Ancillary services dispatch	4.1	No	-	4.1
500	Zero carbon operability	9.1	Yes	6.9	2.3
510	Restoration decision support	0.5	No	-	0.5
n/a	Shared project 1	3.2	No	0.0	3.2
n/a	Shared project 2	1.3	Yes	1.0	0.3
n/a	Shared project 3	2.3	Yes	1.7	0.6
n/a	ESO direct capex investment (non IT) - Theme 1	2.0	No	-	2.0
n/a	ESO direct capex investment (non IT) - Theme 2	1.7	No	-	1.7
n/a	Shared project 4	9.5	No	-	9.5
n/a	Shared project 5	3.4	Yes	2.5	0.8
n/a	Shared project 6	1.5	No	-	1.5
n/a	Shared project 7	1.7	No	-	1.7
n/a	Other IT Expenditure	7.8	Yes	7.8	-
n/a	Shared project 8	1.0	Yes	0.8	0.3
n/a	Shared project 9	0.5	Yes	0.4	0.1
n/a	Shared project 10	2.4	No	0.0	2.4
n/a	Shared project 11	1.8	Yes	1.4	0.5
Total		**162.4**		**91.4**	**71.0**

Appendix 5 – Risk taxonomy

Purpose of appendix

To supplement the rationale, we outline in chapter 5, regarding ESO's risk claims, we set out our further considerations below.

ESO risk taxonomy

Risk category	Test 1: CAPM and double-count test	Test 2: Mitigation	Test 3: Scale
Revenue collection risk	We propose additional funding above allowances for debt and equity financing of the RAV. We have also sought to mitigate (see Test 2) and capture downside asymmetry (see Test 3).	ESO can mitigate this risk through good stakeholder management, accurate forecasting and efficient procurement of a working capital facility (WCF). The regulatory framework for RIIO-2 significantly reduces the ESO's revenue collection risk.	CEPA has assessed the scale of this risk based on ESO's business plan and its own analysis. This informed the judgement on the amount of capital required for RIIO-2. On this basis, we propose funding for debt and contingent equity capital. CEPA has developed a simple model of the cash flows relating to revenue collection role shortfalls, subsequent prior year adjustments and Ofgem's time value of money adjustments. The ESO has reviewed this model without seeking major change. This informed CEPA's judgement of the degree of residual risk faced by the ESO in relation to potential mismatches between the cost of financing shortfalls and the remuneration it receives. CEPA's analysis was based on our current approaches to time value of money adjustments. We propose changes to these rates as set out in the finance annex in chapter 11 in the "Annual Iteration Process" section
Performance risk	We propose an incentive regime from -£6m to +£15m. We have considered the ±£6m within our asset beta estimate, and considered the upside in terms of overall asymmetry.	ESO can manage this risk by; performing well against its performance measures; delivering plans on time and ensuring value for money. The regulatory framework has mitigated this risk by	By design, this is the most material risk for the ESO. We have sought to obtain the best possible alignment between the ESO's incentives and consumer interests.

		capping the upside and downside. It also uses an evaluative design.	
Cost risk	Our judgement on asset beta reflects: the cost pass-through approach for the ESO; indexation of allowances for RAV financing; negligible inflation risk; and disallowance risk levels within benchmark entities. We further address asymmetric cost disallowance within Test 2 and Test 3.	ESO can manage this risk prudent cost management and good governance. The regulatory framework has mitigated disallowance risk by capping the annual disallowance at 10% of RAV, whilst incentives measure value for money as opposed to just outturn cost.	The overall scale of cost risk is lower for ESO than other RIIO-2 Licensees and the other benchmark entities we considered. Some disallowance risk remains, which we consider balances the consumer interest of cost management without exposing investors to excessive levels of disallowance. We judge that the lower exposure level does not therefore warrant material additional funding, particularly given our view that net asymmetry, for the overall price control, is unlikely to be material.
Operational risk	Our judgement on asset beta reflects the operational risks that ESO is exposed to. Operational risks are potentially higher than energy networks and lower or similar to NATS. We therefore do not see a strong claim for additional funding because our asset beta proposal is between these benchmark levels.	ESO can manage risks associated with: IT failures, stranded investments, power outages, workforce skills, management or operational errors and cyber security threats. The regulatory framework provides protection against associated cost risks, while retaining the licence enforcement option consistent with other Licensees.	The scale of these risks will reflect the size and complexity of the electricity industry generally. The scale of these risks will relate partly to ESO's RAV and partly to the size of the electricity industry.
Reputational or political risk	Our judgement on asset beta reflects the reputational and political risks that ESO is exposed to.	ESO can manage its reputational and political risks through good stewardship. Cost pass-through protects ESO from reputational and political risk, subject to incentives and our proposed disallowance provision.	We agree with KPMG that ESO is likely to hold lower political risk than energy network comparators.[84] The scale of the legal risk will reflect ESO's management of the contracts it holds with its suppliers and consumers.
Legal risk	Our judgement on asset beta reflects the legal risk that ESO is exposed to.	ESO can manage legal risk through good stakeholder management and performance. Cost pass-	

[84] https://www.nationalgrideso.com/document/158076/download#page=92

		through protects ESO from legal risk, subject to our proposed disallowance provision.	
Regulatory risk	Our judgement on asset beta reflects the regulatory risk that ESO is exposed to.	ESO can manage regulatory risk through good engagement and performance. Regulatory discretion is bounded by; ex-ante caps on incentive upside and downside; cap on cost disallowance equivalent to 10% of RAV (see also Chapter 4 for information on use); regulatory decisions including enforcement shall have regard to the need to ensure that the ESO is able to finance its obligated activities.	

Appendix 6 – Glossary of ESO-specific framework terms

Table 51: Guide to ESO outputs and incentives components

Element	Description
Roles Framework	Sets out our expectations for how the ESO should comply with its obligations, and for RIIO-2, meet and exceed our incentives expectations under three roles: control centre operations; market development and procurement; and system insight, planning and network development.
Role	One of the three roles in the Roles Framework.
Activity	A subset of responsibilities within a Role with specific expectations and deliverables attached to it, as outlined in Table 13 of this document.
Deliverable	A specific delivered output within an activity which has associated delivery dates and success measures.
Delivery Schedule	A grouping of deliverables for either a Role or the Business Plan. The ESO's latest Delivery Schedule is published alongside this document as a technical annex.
Plan grading	Ofgem's grading of the Delivery Schedule for each role, designed to set a clear reference point and align expectations in the incentives process. Outlined further in Chapter 3 and in Appendix 2.
Performance measure	A measure of the ESO's performance, including performance metrics, stakeholder satisfaction and other regularly reported evidence.
Performance metric	A numerical measure of ESO performance which can be produced regularly, has a pre-defined methodology and has clear performance benchmarks.
Performance benchmarks	Describes ex ante what outturn performance is below, meets and exceeds expectations for each performance metric
Regularly reported evidence	Evidence that should be regularly reported by the ESO to inform the evidence of benefits criterion in the Evaluation criteria.
ESO Performance Panel	A mix of independent experts and industry representatives that are responsible for reviewing the ESO's plans and performance, as well as performing an end of scheme evaluation of the ESO's performance.
ESORI Arrangements Guidance	A guidance document which sets out the logistics and detailed mechanics of the incentives scheme, including guidance on how the ESO performance should be evaluated, what it should report, and how we determine an incentive payment or penalty.
Evaluation criteria	The criteria used by the Performance Panel to measure the ESO's performance for each role. Proposals for RIIO-2 in Table 9.
Payment penalty methodology	Explanation of how Ofgem takes the recommendations from the Performance Panel and decides on a final incentive payment or penalty, as set out in our ESORI Arrangements guidance document.